80-1310

Office-Supreme Court, U.S.
FILED
FEB 3 1981
ALEXANDER L. STEVAS,
CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1980

TRANSWESTERN PIPELINE COMPANY,

Petitioner,

v.

FEDERAL ENERGY REGULATORY COMMISSION

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

APPENDIX TO PETITION

APPENDIX

		PAGE
1.	Transwestern Pipeline Co. v. F.E.R.C., Docket Nos. 78-1090, 79-3053, ... F.2d .... (5th Cir. 1980)	1
2.	Transwestern Pipeline Co. v. F.E.R.C., Docket No. 78-1090, 589 F.2d 231 (5th Cir. 1979)	13
3.	Notice of Proposed Rulemaking by Federal Power Commission, Research and Development, Advanced Approval of Rate Treatment, Docket No. RM76-17, issued June 17, 1976	15
4.	Order Prescribing Changes in Accounting and Rate Treatment for Research, Development and Demonstration Expenditures, Order No. 566, Docket No. RM76-17, issued June 3, 1977	32
5.	Order Denying Petition for Rehearing of Order No. 566, Docket No. RM76-17, issued August 3, 1977	84
6.	Order Denying Motion for Reconsideration, Docket No. RM76-17, issued January 9, 1978	89
7.	Transwestern Pipeline Company, Docket No. RP75-74, Opinion No. 43, issued June 25, 1979	100
8.	Transwestern Pipeline Company, Docket No. RP75-74, Opinion No. 43-A, issued August 23, 1979.....	117
9.	Northern Natural Gas Company, Docket Nos. RP72-127 and R&D 75-1, Opinion No. 14, issued May 10, 1978 ...	121
10.	Transwestern Pipeline Co. v. F.E.R.C., Docket Nos. 78-1090, 79-3053, Order Denying Petition for Rehearing, November 5, 1980	159

TRANSWESTERN PIPELINE COMPANY, *Petitioner,*

v.

FEDERAL ENERGY REGULATORY COMMISSION, *Respondent.*

Nos. 78-1090, 79-3053

UNITED STATES COURT OF APPEALS, FIFTH CIRCUIT.

OCT. 2, 1980.

Natural gas company filed petitions for review of orders of the Federal Power Commission and the Federal Energy Regulatory Commission the effect of which was to preclude company from including its expenditures related to a coal gasification plant in its rate base, to be recovered in its rates. The Court of Appeals, Garza, Circuit Judge, held that: (1) gas company was not denied due process by Commission's action in rule-making proceeding making substantive revisions to definition of "research, development in demonstration" expenditures, and (2) Commission acted within its discretion in making effect of order making substantive revisions in definition of "research, development and demonstration" expenditures prospective.

Petitions denied.

1. Constitutional Law 298(7)

Gas company, which sought to include its expenditures related to coal gasification plant in its base rate, was not denied due process by Federal Energy Regulatory Commission's action in rule-making proceeding making substantive revisions to definition of "research, development and demonstration" expenditures. Federal Power Act, §§ 1 et seq., 320, 16 U.S.C.A. §§ 792 et seq., 791a; Natural Gas Act, § 1 et seq., 15 U.S.C.A. § 717 et seq.

2. Gas 14.4(7)

Federal Energy Regulatory Commission did not abuse its discretion in making substantive revisions to definition of "research, development and demonstration" expenditures effective prospectively, thus making commercial-scale demonstration projects not subject to research, development and demonstration treatment for rate purposes until effective date of substantive revisions. Federal Power Act, §§ 1 et seq., 320, 16 U.S.C.A. §§ 792 et seq., 791a; Natural Gas Act, § 1 et seq., 15 U.S.C.A. § 717 et seq.

Petitions for Review of Orders of the Federal Energy Regulatory Commission.

Before CHARLES CLARK, RONEY and GARZA, Circuit Judges.

GARZA, Circuit Judge:

We have before us consolidated petitions for review of orders of the Federal Power Commission and its successor, the Federal Energy Regulatory Commission, rendered in two separately docketed Commission proceedings. The effect of these orders was to thwart the attempt of petitioner Transwestern to include its expenditures related to a coal gasification plant in its rate base, to be recovered in its rates.

Transwestern is a natural gas company operating an interstate pipeline from Texas-Oklahoma production areas to a point near Needles, California. It was a participant in the "WESCO" coal gasification project, which was to use the "Lurgi" gasification process. The plant was intended to have produced a synthetic gas with an energy component comparable to that of natural gas.[1]

---

[1] The project is more fully described in *Transwestern Pipeline Company, et al.*, 53 F.P.C. 1287 (1975). The plant appears never to have been completed and Transwestern in 1977 wrote off some $12.5 million in associated costs.

Transwestern notes that it has expended several millions of dollars in connection with the WESCO project.

Transwestern has sought to include its WESCO expenditures in the rate base as "research and development" [R&D], or "research, development and demonstration" [RD&D] expenditures,[2] which qualify for such treatment under the Commission's regulations.[3] The definition of RD&D is found at definition 28B of the Commission's Uniform System of Accounts, 18 C.F.R.

---

[2] Prior to 1977, the Commission terminology was simply "research and development." In that year it was changed to "research development and demonstration." The latter term will be generally used in this opinion.

[3] 18 C.F.R. § 154.38(d)(5)(v), which provides as follows:

(v) A natural gas pipeline company may submit a research, development and demonstration cost adjustment provision to flow through changes in its expenditures for research, development and demonstration. Changes permitted hereunder include both expenditures chargeable to operations as well as rate base treatment of the balances in account 188 at hereinafter defined. No RD&D adjustment provision shall become effective until authorization by the Commission. No request for RD&D adjustment provision will be considered by the Commission unless the proposed clause indicates the following terms and conditions.

(a) The RD&D expenditures adjustment shall be reflected in the company's rates only when it amounts to at least one-tenth of 1 mill ($0.0001) per thousand cubic feet of annual jurisdictional sales. Rate changes shall be applied to the commodity component of the existing rates of a pipeline company's two-part rates and to the volumetric rates of a pipeline company's one-part rates.

(b) Rate changes shall be computed and filed not more frequently than semi-annually. Rate changes by companies having Commission approved PGA clauses should be computed and filed to the extent practicable to coincide with the proposed effective date of a PGA rate change.

(c) Except in the case of expenditure approval pursuant to § 154.38(d)(5)(ii) RD&D expenditures chargeable to operations which may be tracked and reflected in rates shall be the amount which actual RD&D expenditures during the 12-month period ending 3 months prior to a proposed rate adjustment exceed or are less than (1) the amount allowed in the companies last rate proceeding or the average of 3 years RD&D expenditures if such rate adjustment is an initial filing under the subsection; or (2) the actual

part 201.[4] This case largely turns on the question of whether the

---

RD&D expenditures in the company's last prior rate adjustment under this section.

(d) RD&D expenditures in account 188 which are eligible to receive rate base treatment and which may be tracked and reflected in rates shall be the amount which the actual balances in such account during the 12-month period ending 3 months prior to the proposed rate adjustment exceed or are less than the balances in such account as of the date of this regulation, if an initial filing under this section, or the balances in account 188 included in the company's last prior rate adjustment under this subsection. For the purpose of determining the balance which may be tracked the company shall reduce the balance in account 188 by all moneys recorded in account 495 related to its RD&D expenditures and shall increase or reduce such account balance, as appropriate, by the applicable accumulated deferred income taxes. The rate of return used by the company to determine the rate effect of the rate base treatment of the balance in account 188 shall be the rate of return last allowed by the Commission during the previous 3-year period. If there has been no such rate of return allowed during the previous 3-year period, then, in the absence of evidence submitted to the contrary, the return utilized shall be the present interest rate used for computing refunds as specified in § 154.67.

[4] Definition 28B currently reads:

B. "Research, Development, and Demonstration" (RD&D) means expenditures incurred by natural gas companies either directly or through another person or organization (such as research institute, industry association, foundation, university, engineering company, or similar contractor) in pursuing research, development, and demonstration activities including experiment, design, installation, construction, or operation. This definition includes expenditures for the implementation or development of new and/or existing concepts until technically feasible and commercially feasible operations are verified. Such research, development, and demonstration costs should be reasonably related to the existing or future utility business, broadly defined, of the public utility or licensee or in the environment in which it operates or expects to operate. The term includes, but is not limited to: All such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources for example, an experimental coal gasification plant or an experimental plant synthetically producing gas from liquid hydrocarbons); and the costs of obtaining its own patent, such as

definition includes "commercial-scale" demonstration projects, intended to show that a process is commercially feasible where it may have already been shown technologically feasible. Prior to 1973, the definition required an expenditure to "represent research and development in the experimental or laboratory sense." *Annual Reporting of Research and Development Activities*, 35 F.P.C. 820, 823-24 (1966). In 1973, the Commission broadened the definition in its Order No. 483, deleting the requirement that research and development be restricted to activities "in the experimental or laboratory sense." *Research and Development, Accounting and Reporting*, 49 F.P.C. 1045 (1973).[5]

Perhaps encouraged by the Commission's reference in the Order 483 change to "an experimental coal gasification plant" an an example of a facility possibly qualifying for RD&D treatment, Transwestern on March 14, 1975 filed a rate increase with

---

attorney's fees expended in making and perfecting a patent application. The term includes preliminary investigations and detailed planning of specific projects for securing for customers non-conventional pipeline gas supplies that rely on technology that has not been verified previously to be feasible. The term does not include expenditures for efficiency surveys; studies of management, management techniques and organization; consumer surveys, advertising, promotions, or items of a like nature.

[5] The relevant portions of the definition following the 1973 Order 483 change were as follows:

28B. "Research and Development" means expenditures incurred by natural gas companies * * * in pursuing research and development activities including experiment, design, installation, construction or operation. * * * The term includes but is not limited to: all such costs incidental to the design, development or implementation of an experiment facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources for example, an experimental coal gasification plant or an experimental plant synthetically producing gas from liquid hydrocarbons) * * *. 49 F.P.C. at 1059-1060.

the Commission which included costs related to the WESCO project as part of the rate base. The filing was docketed as Commission No. RP75-74. The Commission allowed the increase to go into effect subject to refund.

While the RP75-74 rate case was pending before it, the Commission, on June 17, 1976, issued a Notice of Proposed Rulemaking in which it proposed additional procedures and guidelines for the appropriate accounting and rate treatment of RD&D expenditures in Docket No. RP76-17. One of the stated purposes of the rulemaking was "to recognize participation in full-scale demonstration facilities, under certain conditions, as a justifiable R&D expenditure." Specific amendments to the definition of RD&D were not proposed.[6]

The Public Utilities Commission of the State of California, [California], the state agency entrusted with the regulation of natural gas subject to that state's jurisdiction, was "engaged in a controversy" with Transwestern over the qualification of WESCO expenditures for RD&D treatment. It filed comments following the issuance of the notice of proposed rulemaking, opposing any broadening of the scope of RD&D to include expenditures related to commercial-scale demonstration projects on the grounds that the projects could not be "properly classified as R&D," and that such treatment would require consumers to ultimately bear all risks. Transwestern notes that as it "had not elected to seek advance assurance," it "did not, therefore, file comments."

---

[6] The commission specifically stated:

> The provisions of this proposed rulemaking augment current regulations dealing with application for advance approval of R&D expenditures, which is an *optional* procedure offered in Section 35.22, Subchapter B, Regulations Under the Federal Power Act, and Section 154.38(d)(5), Subchapter E, Regulations Under the Natural Gas Act. It is not intended herein to alter the application of current regulations except in cases where application is made for advance assurance of rate treatment for R&D expenditures.

The result of the notice and comments was Order No. 566, issued in June 1977. The Commission agreed to the request of several parties for a "clarification" of the definition of research and development.[7] The Commission stated:

> . . . we will add a sentence after the first sentence of . . . Definition 28.B Part 201 as follows: "This definition includes expenditures for the implementation or development of new and/or existing concepts until operations become technically and economically feasible."
>
> * * * * * *
>
> An innovative commercial scale plant based on new technology proven on a pilot plant scale to be technically feasible, but not proven to be commercially feasible, could be considered 100% RD&D.

California petitioned for a rehearing of Order 566, expressing concern that the "clarification" would be held applicable to Transwestern's project. It asked that the Order be given prospective effect. On August 3, 1977, the Commission denied California's Motion for Rehearing, but in effect granted the relief sought. It characterized Order 566 as "expanding the definition of RD&D to include full-scale demonstration projects;" but held that it:

> did not intend Order No. 566 to be applied so as to allow retroactive rate base treatment of amounts which would not be accorded such treatment under prior definitions of R&D. Rate base treatment and tracking of costs associated with commercial-scale demonstration projects are to be prospective from June 3, 1977, the date of issuance of Order No. 566.

---

[7] The Commission stressed that it was not changing the definition:

> The Commission confirms that this rulemaking does *not* cancel or alter present practice. It *clarifies existing regulations* and adds an additional procedure for advance approval of RD&D programs. . . . The *existing definition of RD&D is not eliminated*. It will be *clarified* as previously discussed. [Emphasis Added].

Transwestern applied for rehearing and conditionally sought leave to intervene if formal party status were deemed necessary by the Commission. The Commission granted the conditional intervention for the purposes of consideration, but ruled that rehearing would not lie. It stated that Transwestern's pleading would be considered as a petition for reconsideration.

On January 9, 1978, the Commission denied "reconsideration" and Transwestern's attempted intervention. The Commission stated that the language of Order 566 did not specifically include or exclude expenditures on commercial-scale demonstration facilities. It stated that the Order had not changed the definition on the basis of which the issue in Transwestern's rate case was to be decided, and that the scope of the preorder 566 definition would be decided in that other docket. Finally, the Commission found that Transwestern was neither discriminated against nor denied due process, because the rulemaking was of general applicability.

Transwestern petitioned this court for review, the case being here numbered 78-1090. We initially ruled that "review of the Commission's orders may be premature at this time, especially in light of the pending rate case," and stayed further proceedings pending a Commission decision in the rate case. *Transwestern Gas Pipeline Company v. Federal Energy Regulatory Commission,* 589 F.2d 231 (5 Cir. 1978).

On December 22, 1977, an Administrative Law Judge made an initial determination in the rate case denying Transwestern's request for RD&D treatment of its WESCO expenditures. The Commission affirmed on June 25, 1979, in its Opinion No. 43. Transwestern petitioned for review and we consolidated the petition, No. 79-3053, with the prior petition from the rulemaking proceeding.

Transwestern brings a series of interrelated assignments of error. The company argues that the Commission erred by denying RD&D treatment of WESCO expenditures in its resolution

of the rate case, using either the pre or post Order 566 definitions. Transwestern contends that it was discriminated against and denied due process by the Commission's "prospective only" application of Order 566. It asserts that the Commission by that Order merely "clarified" that commercial-scale projects qualified for RD&D treatment under the prior definition. The Commission is said to have erred in mandating a prospective application because it cannot, in Transwestern's view, "avoid the requirements of the Administrative Procedure Act nor engage in retroactive rulemaking by the issuance of what it denominates as 'prospective clarification.' " The company argues that it was subjected to discrimination and deprivation of due process by a Commission attempt to accommodate California's position by in effect barring Transwestern from the benefits of the Order 566 "clarification" while its rate case was pending. Thus, the "clarification" is said to be applicable to Transwestern's WESCO RD&D treatment request.

The Commission responds that Transwestern's petition for review of the rulemaking proceedings should be dismissed because the company was not aggrieved by the Commission's orders. It notes that "[T]he gravamen of Transwestern's brief is that the Commission discriminated against Transwestern by deciding a disputed issue in its rate case in this rulemaking."

[1] We agree with position of the Commission. In *Atlanta Gas Light Co.* v. *Federal Power Commission,* 476 F.2d 142 (5 Cir. 1973), we held:

> The requirement that the reviewable order be "definitive" in its impact upon the rights of the parties is something more than a requirement that the order be unambiguous in legal effect. It is a requirement that the order have some substantial effect on the parties which cannot be altered by subsequent administrative action. See *Atlantic Seaboard Corp.* v. *Federal Power Commission,* 4 Cir., 1953, 201 F.2d 568. The additional condition of reviewability — the

> requirement that the order threaten "irreparable harm"—is, to that extent, redundant, since an "irreparable" injury, like the effect of a "definitive" order, cannot be redeemed by subsequent official action. See *Atlantic Seaboard Corp.* v. *Federal Power Commission,* supra at 572. 476 F.2d at 147.

Here, the Commission in its denial of Transwestern's petition for "reconsideration" clearly stated:

> [J]ust because the substantive revisions of the Order No. 483 definition are effective prospectively, neither Transwestern nor [California] have been denied due process: There has been no change in the definition on the basis of which the issue in Docket No. RP75-74 is to be decided.

Transwestern did not, therefore, suffer the "irreparable" harm necessary to reviewability, for the Commission expressly reserved the question of its RD&D applicability claims for determination in the rate case. Any adverse effect the rulemaking proceedings had on Transwestern could clearly have been "altered by subsequent administrative action." For this reason, we reject any argument that the company was denied due process in the rulemaking proceedings.[8]

With regard to the rate case petition, the Commission argues that prior to the issuance of Order 566, commercial-scale demonstration projects were not expressly included in the definition. That order is said to have definitely established the applicability of RD&D to such projects, expanding the definition. It is contended that the prospective application order was issued after the Commission, within its discretion, "recogn[ized] that the decision to extend R&D accounting and rate treatment to commercial-scale demonstration projects constituted an abrupt

[8] Because we dismiss the petition for review from the orders in the Commission Docket No. RP76-17, we do not pass on Transwestern's other assignments of error in connection therewith.

and significant departure from existing policy," with a possible adverse affect to others flowing from retroactive application. Thus it is argued that the Commission properly determined that the Order 566 "expansion" of the RD&D definition is inapplicable to the WESCO project, and that under the pre Order 566 definition, the project did not qualify for such treatment.[9]

[2] Once again, we are compelled to agree with the Commission. It is obvious that Order 566 established, for the first time, the applicability of the RD&D definition to commercial-scale demonstration facilities. The Order expressly added "expenditures for the implementation or development of new and/or existing concepts until operations become technically and economically feasible" to the definition.[10] *See generally Great Plains Gasification Associates, et al.*, Opinion No. 69, Docket

[9] The Commission's Opinion and Order expressly noted that the denial of RD&D treatment to Transwestern's WESCO expenditures was consistent with their recent opinion in *Northern Natural Gas Co.*, Docket Nos. RP72-127 and R&D 75-1, Op. No. 14 (May 10, 1978), *reh. denied*, Op. No. 14A (Sept. 14, 1978). There, the Commission denied Northern's request for RD&D treatment of expenditures made in connection with a commercial size gasification project that utilized the Lurgi process. The Commission first determined that the definition of RD&D applicable to the *Northern* proceeding was that contained in Order No. 483. *Id.* at 19-22. It next determined that the Lurgi process "is no longer experimental, nor is it novel or innovative." *Id.* at 24. The Commission therefore concluded that the project was not an "experimental coal gasification plant" within the meaning of the operative definition and that the expenditures made in connection with such a project did not qualify for RD&D treatment. *Id.* at 27.

[10] This conclusion is bolstered by the Commission's comments on denying California's application for rehearing of Order 566:

> [C]ommercial feasibility refers to a determination that a technology proved in a pilot plant will be operable on a commercial scale as well. For our purpose, it does not refer to whether the cost of the final product will be low enough to make it competitive with other processes now, but it does refer to an evaluation that the cost of the final product will be reasonable at some future date. It is anticipated that the need for verification will require the construction of at least one demonstration plant.

Nos. CP78-391, et al. (Mimeo at 48-52); *Northern Natural Gas Co.*, Opinion No. 14, Docket Nos. RP72-127, et al. (Mimeo at 18-22). We believe that the Commission acted within its discretion in making the effect of Order 566 prospective. *See generally Securities and Exchange Commission* v. *Chenery Corp.*, 332 U.S. 194, 201-204, 67 S.Ct. 1575, 1579-1581, 91 L.Ed. 1995 (1947); *Retail, Wholesale and Department Store Union* v. *National Labor Relations Board*, 466 F.2d 380, 389-90 (D.C.Cir.1972); *Pacific Molasses Company* v. *Federal Trade Commission*, 356 F.2d 386, 390 (5 Cir. 1966). The Commission could properly determine that an adverse affect on other parties could result from a retroactive application of the new definition. *Coe* v. *Secretary of Health, Education and Welfare*, 502 F.2d 1337, 1340 (4 Cir. 1974). Thus, as the Commission stated, Transwestern's claims must stand or fall under the rules as they stood prior to the amendment; it has no vested right to retroactivity.

Given the opportunity to advance its claims in the rate case, Transwestern did not succeed. Having concluded that commercial-scale demonstration projects were not expressly made subject to RD&D treatment until the effective date of the Order 566 RD&D definition extension, we find no error in the Commission's refusal in the rate case to afford such treatment to Transwestern's WESCO expenditures. The consolidated petitions for review must be, accordingly, denied.

PETITIONS DENIED.

TRANSWESTERN PIPELINE CO.,

Petitioner,

v.

FEDERAL ENERGY REGULATORY COMMISSION,

Respondent

No. 78-1090.

UNITED STATES COURT OF APPEALS, FIFTH CIRCUIT.

FEB. 7, 1979.

Petitioner brought appeal to review certain orders of the Federal Energy Regulatory Commission relating to Commission's regulations of research, development and demonstration expenditures. The Court of Appeals held that where petitioner was a party to a rate case currently pending before Commission in which regulations involved in instant appeal would be applied to concrete factual situation, review of Commission's orders might be premature at this time, and, accordingly, proceedings would be stayed pending outcome of rate case.

Order accordingly.

Gas 14.5(1)

Where petitioner, which brought appeal to review certain orders of the Federal Energy Regulatory Commission relating to Commission's regulations on research, development and demonstration expenditures, was a party to rate case currently pending before Commission in which regulations involved in instant appeal would be applied to a concrete factual situation, review of Commission's orders might be premature at this time, and, accordingly, proceedings would be stayed pending outcome of rate case. Natural Gas Act, § 19(b), 15 U.S.C.A. § 717r(b).

Petition for Review of an Order of the Federal Energy Regulatory Commission.

Before BROWN, Chief Judge, COLEMAN and TJOFLAT, Circuit Judges.

PER CURIAM:

Transwestern Pipeline Company (Transwestern) brings this appeal under 15 U.S.C. § 717r(b) to review certain orders of the Federal Energy Regulatory Commission (the Commission) relating to the Commission's regulations on research, development and demonstration (RD&D) expenditures. The parties have informed the Court that Transwestern is a party to a rate case now pending before the Commission in which the regulations involved in this appeal will be applied to a concrete factual situation. The Court is of the opinion that review of the Commission's orders may be premature at this time, especially in light of the pending rate case. Accordingly, the proceedings in this case are stayed pending the outcome of Docket No. RP75-74. In the event that Transwestern is aggrieved by the outcome of the rate case, it may appeal to this Court in a timely manner from the appropriate final order of the Commission, and that appeal will then be consolidated with this case. In the event that Transwestern is not aggrieved by the outcome of the rate case or does not file a timely appeal, the Commission should move the Court to dismiss this case. Barring any extraordinary circumstances, such a motion will be granted.

Order accordingly.

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION
(18 CFR Part 35, 154)

RESEARCH AND DEVELOPMENT,
ADVANCED APPROVAL OF RATE TREATMENT

DOCKET NO. RM76-17

ACCOUNTING-RULEMAKING, RESEARCH AND DEVELOPMENT

NOTICE OF PROPOSED RULEMAKING

(June 17, 1976)

Pursuant to Section 553 of the Administrative Procedure Act, 5 U.S.C. 553, Section 309 of the Federal Power Act, 49 Stat. 858-859, 16 U.S.C. 825h, and Section 16 of the Natural Gas Act, 52 Stat. 830, 15 U.S.C. 717o, the Commission gives notice that it proposes to amend its regulations by adding new material to Chapter I, Title 18, Code of Federal Regulations. The purpose of the amendments is to provide additional procedures and guidelines whereby requests for advance assurance of rate treatment for research and development (R&D) expenditures may be used by jurisdictional companies to insure the support of well-planned and comprehensive R&D programs. Specificially, in Subchapter B, Regulations under the Federal Power Act, the Commission proposes to amend Part 35 by adding additional material to Section 35.22(a) and by adding new Sections 35.22(b), 35.22(c) and 35.22(d). In Subchapter E, Regulations under the Natural Gas Act, the Commission proposes to amend Part 154 by adding additional material to Section 154.38(d)(5)(i) and by adding new Sections 154.38(d)(5)(ii), 154.38(d)(5)(iii) and 154.38(d)(5)(iv).

Background

This Commission recognizes the need for a significantly expanded national energy research and development program as

part of the solution to the Nation's problem of increasing imbalance between energy supply and demand. By our Order No. 408 issued August 26, 1970, we changed the uniform systems of accounts for electric utility and natural gas companies by establishing a specific amount for R&D expenditures, allowed amortization of approved research and development expenditures over a period up to five years, and allowed rate base treatment for unamortized balances. By our Order No. 483 issued April 30, 1973, we expanded our definition of research and development for accounting purposes, allowed advance assurance of rate treatment of expenditures for R&D projects, and allowed tracking of these expenses in jurisdictional rates. Since issuance of these orders, there have been significant developments in the expanding national energy research and development effort which indicate the desirability of further clarification of the Commission's R&D accounting procedures. The Electric Power Research Institute was established in 1973 and is receiving increasing support from all segments of the electric utility industry. The Energy Research and Development Administration, established in 1975, brings together all major federal energy R&D programs and is establishing a growing number of cooperative research, development, and demonstration programs with the energy industries.

We are encouraged by the increased emphasis R&D has been given by some elements of the electric power and natural gas industries as demonstrated by the support given to the Electric Power Research Institute by jurisdictional electric power companies and by a number of requests for advanced approval of individual R&D projects by jurisdictional natural gas companies. However, we have not yet seen the level of concentrated and coordinated effort by the natural gas industry that the public interest requires to significantly advance the state of technology to relieve the severe curtailment of service now being experienced by interstate natural gas pipelines. In addition, our staff has expressed to us the difficulty of reviewing research projects

individually to test their reasonableness. Individual research and development projects often cannot be justified separately but only as components of complete and complex research programs, which programs have objectives that serve consumer or public interests.

We believe it is now desirable for this Commission to take additional action related to the support of R&D programs by the electric power and natural gas industries. It is important that our regulations be reviewed from time to time to assure that they prescribe the most direct and effective means for implementing our statutory responsibility, taking account of the dynamic nature of the technology used in the industries we regulate. By issuing this Notice of Proposed Rulemaking, we solicit the comments and suggestions of interested parties.

This proposed rulemaking is intended specifically to stimulate R&D effort by jurisdictional companies by clarifying the Commission's review and accounting procedures and by providing an opportunity for simplifying proceedings before the Commission by allowing advance approval of the R&D program of organizations which derive financial support from jurisdictional companies. The rulemaking would: (1) establish sound and comprehensive planning of research programs as the preferred test for granting advance approval of R&D expenditures, (2) recognize participation in full-scale demonstration facilities, under certain conditions, as a justifiable R&D expenditure and (3) assure FPC review and decision at an early planning phase of R&D program development whenever advance approval is requested.

It appears that the review and approval of research programs proposed to be supported by one or more companies subject to the jurisdiction of this Commission and one or more state regulatory commissions would offer a valuable opportunity for joint review as authorized under Section 209(a) of the Federal Power Act (49 Stat. 853, 16 U.S.C. 824h(a)) and under Section 17(a) of the Natural Gas Act (52 Stat. 830, 15 U.S.C. 717p(a)). We

specifically solicit the comments of the various state commissions, and of the National Association of Regulatory Utility Commissioners as to this concept.

The provisions of this proposed rulemaking augment current regulations dealing with application for advance approval of R&D expenditures, which is an optional procedure offered in Section 35.22, Subchapter B, Regulations Under the Federal Power Act, and Section 154.38(d)(5), Subchapter E, Regulations Under the Natural Gas Act. It is not intended herein to alter the application of current regulations except in cases where application is made for advance assurance of rate treatment for R&D expenditures.

Research Planning as the Preferred Test

The Commission may apply either of two methods to test the reasonableness of energy research and development projects.

The first method is to examine the technical structure of each project to determine whether it meets a definition of research and development and has a reasonable chance of benefiting ratepayers. This procedure, however, substitutes the technical and research judgment of a limited number of FPC staff for that of other technical and research personnel and can cause long, costly delays in reviewing many of the projects.

The second method is to establish a set of criteria based on the planning process itself. In this approach, an individual R&D expenditure would be reasonable if it supported a comprehensive and integrated energy R&D program meeting the needs of the company and/or the industry to serve ratepayers and the general public. This second method is proposed in this rulemaking.

R & D Programs of Non-Jurisdictional Organizations

Individual jurisdictional companies can and do undertake and support research projects alone either in-house or under grant or contract benefiting, in varying degree, both their immediate customers and the general public.

In addition, a number of organizations exist or are planned which undertake pertinent energy research and development efforts with the joint support of more than one jurisdictional company.

In addition to conducting or contracting for individual R&D efforts, we believe it is reasonable for jurisdictional companies to provide support to R&D organizations such as national organizations broadly supported by a number of energy industry sectors (e.g., natural gas, electric power, petroleum, coal, nuclear energy); single industry sector supported national organizations (e.g., the Electric Power Research Institute and some form of national center funded as proposed in the *Gas Industry Research Plan 1974-2000,* issued January 1974 by the American Gas Association); and regional organizations or projects which work primarily on problems of a regional nature.

For R&D organizations supported by more than a single jurisdictional company, we are proposing to offer the option of the R&D organization requesting advance approval as a substitute for individual jurisdictional companies filing for advance approval. Since the justification for advanced approval of rate treatment for R&D expenditures would be the same whether provided by the R&D organization once or by the jurisdictional companies many times individually, a single request by the organization would reduce the paperwork burden on the R&D organization, the jurisdictional companies, and the FPC and would afford each the opportunity to concentrate more on assuring the quality and value of the R&D efforts undertaken.

Guidelines for R & D Planning

We are also proposing guidelines by which we will judge the reasonableness of requests for advance approval for both R&D organizations and R&D programs within a single jurisdictional company. These guidelines are intended to put the emphasis on

quality and completeness of the R&D planning process, including consideration of cost versus probable benefit, as the justification of the reasonableness of the individual R&D projects and expenditures which constitute the total R&D program. The nature of research and development and the breadth of the national energy problem require the broadest possible assessment of future technological options. To assure the comprehensive R&D effort necessary to maximize the probability of technological success and societal acceptance, R&D organizations and jurisdictional companies must involve qualified representatives from varied scientific, engineering, economic, consumer, and environmental interests in the R&D planning process. We propose the following as guidelines:

1. Evidence that the R&D objectives of the company or research organization have been clearly established.
2. Evidence that the plan evolves from these R&D objectives and utilizes the review by and judgment of qualified representatives of scientific, engineering, industry, economic, consumer and environmental interests.
3. Evidence that an effective mechanism exists and is used for coordinating this research and development plan with Federal R&D programs and with other relevant private efforts of national scope.
4. Evidence that the R&D program has reasonable chance of benefiting the ratepayer in a reasonable period of time.
5. Evidence that whatever achievements may result from the R&D effort either in the form of new or improved technology, new or improved techniques, reduced investment or costs, patents or salable products will accrue to the benefit of participating jurisdictional companies and will flow through to their customers.

To request advance approval of an R&D program, an R&D organization or an individual jurisdictional company would

annually submit an R&D planning document covering at least a five-year period. The Planning document would provide the evidence required under the guidelines above. In addition, the document would describe and budget individual research, development, and demonstration projects previously initiated and those planned to commence during the first year of the plan.

Demonstration Projects

Many of the energy technologies under serious investigation in the national R&D effort are not only known to be technically feasible but also are in operation on a laboratory scale, or on a working scale, as in a pilot plant. However, uncertainty with regard to the economics of commercial-scale operation is, in many cases, so great as to preclude normal methods of financing the construction of the first, or the first several commercial-scale facilities. Therefore, because of the Nation's need for rapid development of new energy technology, the construction of commercial-scale demonstration facilities must be regarded as a vital part of the national R&D program.

We propose specifically to grant advance approval as R&D expense to a portion of the cost of demonstration projects, provided the projects meet the planning criteria stated above and the additional criterion that the demonstration project must involve sufficiently high economic or technological risk as to preclude complete financing as a normal business investment.

The portion of the project cost eligible to be considered for advance approval as an R&D expense would be that part of the total cost in excess of an amount which would be justified as normal business investment relative to a level of performance of the planned facility which is assured on the basis of existing technology and practices. This approach to determining the R&D cost component does not imply that there is a simple formula applicable to all such projects. Each major demonstration project will have to be analyzed in terms of the technology and the risk involved. In making application for advance

approval for R&D costs associated with a demonstration facility, the applicant would state the total estimated cost of the facility and that portion of the total which is to be financed as normal business investment. The normal business investment would be based on the reasonably assured level of output over the useful life of the facility and the expected per unit selling price of the product.

Advance approval of portions of demonstration project costs as R&D expense may be granted to either individual jurisdictional companies or R&D organizations. However, we express a strong preference for arrangements in which high-risk demonstration projects are conducted by R&D organizations jointly supported by jurisdictional companies having a large number of ratepayers.

To the extent that a demonstration facility produces revenue (from sale of the product or eventual sale of the facility) directly related to that portion of the facility cost which has been treated as R&D expense, we require that the revenue flow back to the ratepayers.

Timely FPC Review and Decision

Since the issuance of the proposed rulemaking on January 27, 1970, which subsequently resulted in promulgation of Commission Order No. 408, we have been on record as encouraging an expanded and improved R&D effort by the electric power and natural gas industries. We recognize that continuity of program support is necessary to maintain a qualified research staff and that certainty of support is necessary to effectively complete R&D projects which may extend over periods ranging up to a number of years. We also recognize that to minimize uncertainty of financial support for long range R&D programs we have an obligation to effect timely decisions on proposals submitted to us for advance approval of such programs. Therefore, we propose to require that proposals for advance approval

be submitted at least 180 days in advance of proposed commencement and we propose to commit the FPC to a decision within 90 days; such action may take the form of an order requiring a formal hearing where the Commission is unable, based upon the filing, to determine whether or to what extent the proposed R&D effort justifies ratepayer support.

Although we do not propose to establish specific requirements nor limits on the level of R&D expenditures by jurisdictional companies, it does appear to us that existing levels, which range generally from 0.5 to 1.5 percent of gross revenues, are too low. The Commission believes that the technological advances that are needed in the best interests of customers and the general public warrant R&D expenditures greater than existing levels provided such expenditures are planned and coordinated as specified in the guidelines prescribed above.

Revisions of CFR Title 18

Specifically, we propose to amend both Subchapter B, Regulations under the Federal Power Act, Chapter 1, Title 18 CFR, Section 35.22, and Subchapter E, Regulations under the Natural Gas Act, Chapter 1, Title 18 CFR, Section 154.38(d)(5), as follows:

Revisions of Section 35.22

Section 35.22(a) is to be amended by the addition of two sentences at the end relating to demonstration facilities. The amended section will be:

(a) Commission approval may be requested of rate treatment for R&D expenditures of $50,000 or more related to a project undertaken by the company or as part of a project undertaken by others, or for a group of projects which, in the aggregate, cost $50,000 or more when advance assurance of rate base treatment is desired. This approval may be requested regardless of whether the R&D is

undertaken by the utility or by another party or organization. Approval requests shall describe the project in such detail as to satisfy the Commission that the project expenditure involved qualifies as being valid, justifiable, and reasonable. In addition, the request shall specifically include the estimated cost of the project and a description of the utility's expenditure percentage in the total project program. When a utility participates in a joint project, the contractual agreements should provide the utility complete access to cost records and results related to the project. Records shall be so kept that unscheduled progress reports may be called for as determined by the Commission. Approval requests shall justify any conduct of or partial support of large-scale demonstration facilities by clearly identifying and justifying the portions of the capital and operating costs which require the high-risk financial support necessary to the pursuit of R&D. The justification of support for a large-scale demonstration facility shall include a statement as to the planned accounting treatment of revenue which may be derived from the facility's product and of proceeds which may be derived from the sale of the facility.

A new Section, 35.22(b) is to be added which will be:

(b) Where more than one jurisdictional company proposes to support an R&D organization as defined below, an approval request may be submitted to the Commission by the R&D organization covering the organization's R&D program as defined below. Approval by the Commission of such R&D program shall constitute approval of individual companies' contributions to the R&D organization. Organizations eligible to receive contributions from companies and to request program approval from the Commission under this section may be R&D organizations broadly supported by a number of energy

industry sectors (e.g., natural gas, electric power, petroleum, coal, nuclear energy); single industry sector supported national organizations; or regional organizations that work primarily on problems of a regional nature.

A new Section, 35.22(c) is to be added as follows:

(c) R&D organizations or individual jurisdictional companies requesting R&D program approval shall annually submit a five-year program plan at least 180 days prior to the commencement of the five-year period of the plan. The plan shall clearly state the objectives of the program, both those objectives within and beyond the five-year period, and clearly relate these objectives to the interests of the ratepayers, the public, and the industry and to the objectives of other major research organizations, particularly the U. S. Energy Research and Development Administration. The plan shall contain sufficient budget, technical, and schedule details to afford an understanding of the work to be performed, to allow an assessment of the probability of success, and to permit comparison with other organizations' research plans. The commencement date and expected termination date for individual research, development, and demonstration projects to be initiated during the first year of the plan will be given along with expected annual costs. The plan shall discuss the R&D efforts and progress since the preparation of the plan of the previous year and shall explain any changes that have been made in objectives, priorities, and budgets since the plan of the previous year. The plan shall identify all jurisdictional companies that will support the program and their budgeted support. The plan shall identify those persons involved in the development, review, and approval of the plan and shall state the amount of effort contributed and the degree of control exercised by each.

A new Section, 35.22(d) is to be added as follows:

(d) Within 90 days of filing of the five-year R&D plan as defined above, the Commission will state its decision with respect to acceptance, partial acceptance, or rejection of the plan, or, when the complexity of issues in the plan so requires, will set a date certain by which a final decision will be made, or will state that the matter is to be set for hearing. Partial rejection of a plan by the Commission will be accompanied by a decision as to the partial level of acceptance which will be proportionally applied to all contributions listed for jurisdictional companies in the plan. Approval by the Commission of a five-year plan constitutes approval for rate treatment of all projects identified as starting during the first year of the approved plan. FPC staff may review the last four years of the five-year plan with the organization to provide the organization with the benefit of staff's expertise and knowledge relative to various elements of the national energy R&D effort. The principal tests for the adequacy of the proposed plan shall be (1) the relevance of the expected results to the interests of the ratepayers, public, and the industry and (2) the competence and involvement of persons contributing to the development of the plan.

In order to accommodate the additions set forth above, Section 35.22(b) will become 35.22(e).

Revisions of Section 154.38(d)(5)

Section 154.38(d)(5)(i) is to be amended by the addition of two sentences at the end relating to demonstration facilities. The amended section will be:

(i) Commission approval may be requested of rate treatment for R&D expenditures of $50,000 or more related to a project undertaken by the company or as part of a project undertaken by others, or for a group of projects which, in

the aggregate, cost $50,000 or more when advance assurance of rate base treatment is desired. This approval may be requested regardless of whether the R&D is undertaken by the utility or by another party or organization. Approval requests shall describe the project in such detail as to satisfy the Commission that the project expenditure involved qualifies as being valid, justifiable, and reasonable. In addition, the request shall specifically include the estimated cost of the project and a description of the utility's expenditure percentage in the total project program. When a utility participates in a joint project, the contractual agreements should provide the utility complete access to cost records and results related to the project. Records shall be so kept that unscheduled progress reports may be called for as determined by the Commission. Approval requests shall justify any conduct of or partial support of large-scale demonstration facilities by clearly identifying and justifying the portions of the capital and operating costs which require the high-risk financial support necessary to the pursuit of R&D. The justification of support for a large-scale demonstration facility shall include a statement as to the planned accounting treatment of revenue which may be derived from the facility's product and of proceeds which may be derived from the sale of the facility.

A new Section, 154.38(d)(5)(ii) is to be added which will be:

(ii) Where more than one jurisdictional company proposes to support an R&D organization as defined below, an approval request may be submitted to the Commission by the R&D organization covering the organization's R&D program as defined below. Approval by the Commission of such R&D program shall constitute approval of individual companies' contributions to the R&D organization.

Organizations eligible to receive contributions from companies and to request program approval from the Commission under this section may be R&D organizations broadly supported by a number of energy industry sectors (e.g., natural gas, electric power, petroleum, coal, nuclear energy); single industry sector supported national organizations; or regional organizations that work primarily on problems of a regional nature.

A new Section, 154.38(d)(5)(iii) is to be added as follows:

(iii) R&D organizations or individual jurisdictional companies requesting R&D program approval shall annually submit a five-year program plan at least 180 days prior to the commencement of the five-year period of the plan. The plan shall clearly state the objectives of the program, both those objectives within and beyond the five-year period, and clearly relate these objectives to the interests of the ratepayers, the public, and the industry and to the objectives of other major research organizations, particularly the U. S. Energy Research and Development Administration. The plan shall contain sufficient budget, technical, and schedule details to afford an understanding of the work to be performed, to allow an assessment of the probability of success, and to permit comparison with other organizations' research plans. The commencement date and expected termination date for individual research, development, and demonstration projects to be initiated during the first year of the plan will be given along with expected annual costs. The plan shall discuss the R&D efforts and progress since the preparation of the plan of the previous year and shall explain any changes that have been made in objectives, priorities, and budgets since the plan of the previous year. The plan shall identify all jurisdictional companies that will support the program and their budgeted support. The

plan shall identify those persons involved in the development, review, and approval of the plan and shall state the amount of effort contributed and the degree of control exercised by each.

A new Section, 154.38(d)(5)(iv) is to be added as follows:

(iv) Within 90 days of filing of the five-year R&D plan as defined above, the Commission will state its decision with respect to acceptance, partial acceptance, or rejection of the plan, or, when the complexity of issues in the plan so requires, will set a date certain by which a final decision will be made, or will state that the matter is to be set for hearing. Partial rejection of a plan by the Commission will be accompanied by a decision as to the partial level of acceptance which will be proportionally applied to all contributions listed for jurisdictional companies in the plan. Approval by the Commission of a five-year plan constitutes approval for rate treatment of all projects identified as starting during the first year of the proposed plan. FPC staff may review the last four years of the five-year plan with the organization to provide the organization with the benefit of staff's expertise and knowledge relative to various elements of the national energy R&D effort. The principal tests for the adequacy of the proposed plan shall be (1) the relevance of the expected results to the interests of the ratepayers, public, and the industry and (2) the competence and involvement of persons contributing to the development of the plan.

Submission of Comments

Any interested person may submit to the Federal Power Commission, Washington, D.C. 20426, not later than August 2, 1976, data, views, comments or suggestions in writing concerning all or part of the rulemaking proposed herein. Written submittals will be placed in the Commission's public files and will be available for public inspection, at the Commission's Office of

Public Information, 825 North Capital Street, N. E., Room 1000, Washington, D. C. 20426, during regular business hours. The Commission will consider all such written submittals before acting on the matters herein proposed. An original and 14 conformed copies should be filed with the Secretary of the Commission. Submittals to the Commission should indicate the name, title, mailing address and telephone number of the person to whom communications concerning the proposal should be addressed, and whether the person filing them requests a conference with the staff of the Federal Power Commission to discuss the proposed rulemaking. The staff, in its discretion, may grant or deny requests for conference.

If any state regulatory commission deems this matter to be one which should be considered under the Cooperative Provisions of Section 1.37 of the Federal Power Commission's Rules of Practice and Procedure (18 CFR 1.37), it should notify the Federal Power Commission, as provided for by Section 1.37(b) of the rules, not later than August 2, 1976.

The proposed additions to Part 35 of the Commission's Rules under the Federal Power Act would be issued under the authority granted to the Federal Power Commission by Section 309 of the Act, 49 Stat. 858-859, 16 U.S.C. 825h. The proposed additions to Part 154 of the Commission's Rules under the Natural Gas Act would be issued under the authority granted to the Federal Power Commission by Section 16 of the Act, 52 Stat. 830, 15 U.S.C. 7170.

The Secretary shall cause prompt publication of this notice to be made in the Federal Register.

Kenneth F. Plumb,
Secretary.

Docket No. RM76-17
FPC Form No. 2

Annual report of.....Year ended December 31, 19....

~~RESEARCH AND DEVELOPMENT ACTIVITIES (Continued)~~

(7) Other Storage
(8) New Appliances and New Uses
(9) Gas Exploration, Drilling, Production and Recovery
(10) Coal Gasification
(11) Synthetic Gas
(12) Environmental Research
(13) Other (Classify and include items in excess of $5,000.)
(14) Total Cost Incurred

B. Gas ~~R & D~~ Performed Externally
(1) Research Support to American Gas Association
(2) Research Support to Others (Classify)
(3) Total Cost Incurred

3. Show in column (c) all costs incurred for ~~R & D~~ performed internally and column (d) all costs incurred for ~~R & D~~ performed externally during the current year. Show in column (e) the account number charged with expenses during the year or the account to which amounts were capitalized during the year, listing amounts in Account 107, Construction Work in Progress, first. Show in column (f) the amounts related to the account charged in column (e). Show in column (g) the total unamortized accumulation of costs of projects. The total of column (g) will equal the balance in account 188, ~~Research and Development Expenditures~~, outstanding at the end of the year.

4. If costs have not been segregated for ~~research and development~~ activities or projects, estimates may be submitted for columns (c), (d) and (f) with such amounts identified by "Est."

5. Report separately research and related testing facilities operated by the respondent.

Line No.	Costs Incurred Internally Current Year (c)	Costs Incurred Externally Current Year (d)	AMOUNTS CHARGED IN CURRENT YEAR TO Account (e)	AMOUNTS CHARGED IN CURRENT YEAR TO Amount (f)	Unamortized Accumulation (g)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					

Revise:
RESEARCH, DEVELOPMENT, AND DEMONSTRATION (Continued)

Revise:
RD&D

Revise:
research, development, and demonstration

Revise:
Research, Development, and Demonstration Expenditures

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

(18 CFR Parts 35, 101, 141, 154, 201, 260)

Before Commissioners: RICHARD L. DUNHAM, CHAIRMAN;
DON S. SMITH,
JOHN H. HOLLOMAN III,
AND JAMES G. WATT.

RESEARCH, DEVELOPMENT AND DEMONSTRATION; ACCOUNTING; ADVANCE APPROVAL OF RATE TREATMENT

DOCKET NO. RM 76-17

ORDER NO. 566

ORDER PRESCRIBING CHANGES IN ACCOUNTING AND RATE TREATMENT FOR RESEARCH, DEVELOPMENT AND DEMONSTRATION EXPENDITURES

(Issued June 3, 1977)

On June 17, 1976, in Docket No. RM76-17 the Commission issued a notice of proposed rulemaking, (41 FR 25914) with interested parties being given until August 2, 1976 to submit data, views, comments or suggestions on the amendments proposed. On July 29, 1976 the Commission extended until September 1, 1976 the period of time for submission of data, views, comments or suggestions (41 FR 32911).

The Commission had proposed to amend its regulations by adding new material to Chapter I, Title 18, Code of Federal Regulations. The purpose of the amendments is to provide additional procedures and guidelines whereby requests for advance assurance of rate treatment for research and development (R&D) expenditures may be used by jurisdictional companies to insure the support of well-planned and comprehensive R&D programs. Specifically, in Subchapter B, Regulations under the Federal Power Act, the Commission is amending Part 35 by

adding additional material to Section 35.22(a) and by adding new Sections 35.22(b), 35.22(c) and 35.22(d). Existing Section 35.22(b) is redesignated as Section 35.22(e). In Subchapter E, Regulations under the Natural Gas Act, the Commission is amending Part 154 by adding additional material to Section 154.38(d)(5)(i) and by adding new Sections 154.38(d)(5)(ii), 154.38(d)(5)(iii) and 154.38(d)(5)(iv). Existing Section 154.38(d)(5)(ii) is redesignated as Section 154.38(d)(5)(v).

This rulemaking is intended specifically to stimulate R&D effort by jurisdictional companies by clarifying the Commission's rate review and accounting procedures and by providing an opportunity for simplifying proceedings before the Commission by allowing advance approval of the R&D program of organizations which derive financial support from jurisdictional companies. The rulemaking will: (1) establish sound and comprehensive planning of research programs as the preferred test for granting advance approval of R&D expenditures, (2) recognize participation in full scale demonstration facilities, under certain conditions, as a justifiable R&D expenditure and (3) assure FPC review and decision at an early planning phase of R&D program development whenever advance approval is requested.

The Commission received comments from 45 respondents.[1] These include:

---

[1] American Gas Association
American Public Power Association
Bureau of Natural Gas, Federal Power Commission
California Public Utilities Commission
Carnegie Institute of Technology
Carolina Power & Light Company
City of Santa Clara, California, The
Columbia Gas System Service Corporation
Columbia Gas Transmission Service Corporation
Consolidated Gas Supply Corporation
Detroit Edison Company
Duke Power Company
Edison Electric Institute

Type of Respondent	Number of Respondents
Gas & Electric Power Utility	4
Electric Power Utility	9
Natural Gas Utility	14
Association	7
Research Institute	1
State Commission	4
University	3
City Government	1
Federal Commission	1
Science Foundation	1

El Paso Natural Gas Company
Exxon Corporation
Florida Power Corporation
Gas Research Institute
Illinois Power Company
Interstate Natural Gas Association of America
Long Island Lighting Company
Michigan Wisconsin Pipe Line Company
National Association of Regulatory Utility Commissioners, The
National Rural Electric Cooperative Association
National Science Foundation
Natural Gas Pipeline Company
Northern Illinois Gas Company
Northern Natural Gas Company
Pacific Gas & Electric Company
Pacific Power & Light Company
Philadelphia Electric Company
Public Service Company of New Mexico
Public Service Commission of the State of Indiana
Public Service Commission of the State of New York
Public Service Electric and Gas Company
Public Utility Commission of Oregon
Southern California Edison Company
Southern California Gas Company
Southern Natural Gas Company
Tennessee Gas Transmission Corporation
Texas Gas Transmission Corporation
United Distribution Companies
United Gas Pipe Line Company
University of Arizona, The
Vanderbilt University
Wisconsin Power & Light Company

There was general agreement with the purpose and form of the proposed rulemaking although there were many requests for clarification or modification.

Definitions

Although it was not a part of the proposed rulemaking four respondents specifically recommended that a clarification of the definition of Research and Development (R&D) in Definition 27B of the Uniform System of Accounts Part 201 of the Code of Federal Regulations is germane to the clarification of this rulemaking, and others inferred that a problem exists. We are changing the term "R&D" to "RD&D" in keeping with current practices[2] and consistent with the Notice of Proposed Rulemaking issued June 17, 1976.

It is alleged that ambiguities in the present definitions have led to uneven staff interpretation in rate cases. Citations in support of this recommendation claimed that past rulings of the Commission tended to stress innovative ideas and to disallow RD&D stressing later stages of development.

The Commission accepts this request for clarification. We will add a sentence after the first sentence of Definition 27B Part 101 and Definition 28B Part 201 as follows: "This definition includes expenditures for the implementation or development of new and/or existing concepts until operations become technically and economically feasible."

One respondent requested clarification of the definition of RD&D to specifically include preliminary investigations and detailed planning of RD&D for projects for securing for their customers non-conventional gas supplies that rely on technology that has not yet been verified to be feasible. We recognize that

[2] For example, the U.S. House of Representatives, (New Subcommittee names) the U.S. Energy Research and Development Administration, ("National Plan for Energy Research, Development & Demonstration" ERDA 77-1-Vol. 2), etc.

these are necessary costs as they relate to specific projects. Therefore, we will amend the definitions in 27B and 28B to permit the inclusion of costs of conducting preliminary investigations and detailed planning associated with specific projects. We will not include the costs of such investigations and planning where they are of a general nature or where they are preliminary to the determination to proceed with a project.

It was suggested that the Commission should include in its definition of RD&D a list of the types of broad categories that the Commission is trying to encourage. Such lists have been published by many groups including the Commission's Technical Advisory Committee on Research and Development and the National Gas Survey.[3] We do not adopt any of these lists as necessarily representing RD&D projects eligible for rate treatment. We will review each proposal on its merits.

Eight respondents expressed concern over the definition of organizations eligible to request program approval from the Commission. The concern centered on the use of "broadly supported" referring to organizations of a number of energy industry sectors but only "supported" referring to a single industry sector. The Commission sees little virtue but no harm in accepting this recommendation. Accordingly we will change the phrase in Section 35.22(b) and Section 154.38(d)(5)(ii) to read "RD&D organizations broadly supported by a single industry sector."

As several respondents observed, there are in existence ad hoc consortia of jurisdictional companies that have been formed for

[3] FPC, National Power Survey, "Research and Development for the Electric Utility Industry" July 1974: Technical Advisory Committee on Research and Development. FPC, National Gas Survey, Volume I, p. 13 et seq. 1975. American Gas Association "Gas Industry Research Plan: 1974-2000", January 1974. U.S. Energy Research and Development Administration, "A National Plan for Energy Research, Development & Demonstration: Creating Energy Choices for The Future", ERDA 77-1 — Vol. 2, 25 March 1977.

the specific purpose of furthering RD&D programs and sharing the cost, that do not comfortably fit into our description, on page 4 of the notice, of RD&D organizations. The Commission will clarify Section 35.22(b) and Section 154.38(d)(5)(ii) by adding at the end the phrase "consortia of companies that jointly support RD&D programs for the collective benefit of their ratepayers."

Objectives of Rulemaking

Most responders, particularly those interested in the pipeline gas industry, strongly endorsed the objectives of this rulemaking.

Several expressed concern that present regulations and existing methods for acceptance of RD&D costs were being cancelled or altered. The Commission confirms that this rulemaking does not cancel or alter present practice. It clarifies existing regulations and adds an additional procedure for advance approval of RD&D programs.

The rulemaking is not intended to require any jurisdictional company (directly or through an RD&D organization) to secure advance approval for any RD&D expenditure as a condition to including the cost in the company's rate base. On the contrary, a company could make such expenditures that it believes qualify for rate base treatment as RD&D expenses, and include them in any RD&D adjustment clause filing previously authorized by the Commission, without securing any advance approval. In such circumstances under the existing provisions of Sections 35.22 and 154.38 (d) (5), which are not proposed to be changed, the consequent rate increase could become effective but such increase would, however, be subject to subsequent rejection and refund if found to be unjustified, by a final Commission order.

Furthermore, there is nothing in the revised Regulations that prohibits a company from using both advance approval for a program or part of a program and also reliance on conformity

with the RD&D definition and post facto approval for additional projects or parts of an RD&D program.

The existing definition of RD&D is not eliminated. It will be clarified as previously discussed.

One responder claimed the new rulemaking would inhibit small fast response R&D programs. The commission is of the opinion there are no facts to support this, and there are ample procedures in the Regulations to handle decisions for fast response to needs.

Six responders claimed that the rulemaking emphasizes non-traditional sources of supply and ignores other vital RD&D programs. The Commission disclaims the intent to ignore any vital RD&D programs.

One responder stated that the effect of this rulemaking would be to unnecessarily hamper supplemental supply efforts. This is neither the intent nor the effect. The advance approval procedure is voluntary.

Guidelines

The proposed second guideline drew comments from thirteen responders. The thrust of comments was that the guideline was reasonable for an extensive program of a broadly supported national research institute but that the guideline implied burdensome and extensive review and judgment by diverse viewpoints that is not appropriate in the case of small programs and individual RD&D projects.

The Commission agrees that these comments have merit and will reword the second guideline to read:

> "2. Evidence that the plan evolves from these RD&D objectives and adequately utilizes the viewpoints of scientific, engineering, industry, economic, consumer and environmental interests."

It was proposed that the Commission should give weight to a submitted project being an integral part of a comprehensive

national energy RD&D program prepared by a Federal agency, for example ERDA. Evidence to this effect will be considered. It should be shown how the program submitted to the Commission is coordinated with ERDA or the funding agency.

The proposed fourth guideline drew the most comment, from fifteen responders. The criticisms were that the wording might inhibit basic research and that it implied that to be approved any RD&D undertaken had to carry a guarantee of success. These interpretations were not the intent of the Commission.

The Commission will clarify its intent by rewording the fourth guideline to read:

> "4. Evidence that the project or program is well conceived and has a reasonable chance of benefitting the ratepayer in a reasonable period of time, having due regard to the basic, exploratory or applied nature of each submitted RD&D project."

Objection was raised to guideline 5 on the basis that, "This guideline may be unrealistic when one considers the plethora of proprietary patents or processes a manufacturer or consultant could bring to a research and development project and use in support of that project." The Commission believes that essentially all of the benefits of a proposed RD&D program should flow through to customers. If proprietary constraints prohibit this, the utility should not fund that RD&D, and should not seek approval from the Commission. In general, we believe that information on RD&D projects should be open to public review. We have provided, however, that utilities may petition the Commission to keep such information confidential.

Eight responders requested clarification of what is meant in guideline 5 by ". . . whatever achievements may result . . . will accrue to the benefit of participating jurisdictional companies and will flow through to their customers", and on page 7 of the Notice of Proposed Rulemaking "To the extent that a demonstration facility produces revenue (from the sale of the product

or eventual sale of the facility) directly related to that portion of the facility cost which has been treated as R&D expense, we require that the revenue flow back to the ratepayers".

The Commission will clarify guideline 5 to read:

> "5. Evidence that whatever achievements may result, including knowledge gained or technology developed from the RD&D effort, if any, will accrue to the benefit of the sponsoring jurisdictional company(s) and its/their customers."

The statement on page 7 is clarified as follows. "To the extent that a demonstration facility produces revenue directly related to that portion of the facility cost that has been treated as RD&D expense, we require that the revenue received from the sale of technology or assets and the profit received from the sale of gas and/or by-products flow back to the ratepayers."

The five year period for planned RD&D programs drew some comment. One responder suggested that it should be three years. Two responders suggested that it should be longer than five years. The Commission believes that five years is a reasonable time. The notice of proposed rulemaking did not prohibit submitting a plan extending more than five years. The notice of proposed rulemaking stated "at least a five year period." It also stated in proposed Section 35.22 (c) and 154.38 (d) (5) (iii), "The plan shall clearly state the objectives of the program, both those objectives within and beyond the five year period . . .".

One responder was concerned that all individual projects in the five year program were required to continue for five years. This is not the case. It would be expected that many small projects would have shorter duration.

Several responders were concerned about the difference in proposed treatment of the first year of the five year plan and the balance of the five year plan. Concern was expressed for the indefiniteness of the approval of the second through fifth year of the proposed five year RD&D program, and the possible adverse

effect of this indefiniteness on planning and manning long term programs. The Commission intends that their practice will not be different from typical industry practice in this regard. If the five year plan is approved this approval will have significance. The same is true in industry. However, as is the case in industry the plan will be subject to review and modification in light of new information and new developments on an annual basis. Such yearly updating gives a needed element of freedom to the individual company or RD&D organization submitting the five year plan. The annual review enables us to determine the progress and potential benefits of RD&D projects funded by the consumers.

Five responders requested that approval of projects in the first year of a five year plan constitute approval "for other designated interrelated and sequential projects that may be started in subsequent years". The Commission believes that to the extent these projects are consistent with and necessary to achievement of the objectives accepted by the Commission under the five-year program such projects may be acceptable; however, they should be identified and justified in the annual review procedure.

Two responders commented that submittal of programs to the Commission for advance approval was a duplication of effort if these programs had been submitted previously to ERDA for the purpose of ERDA funding. The Commission does not agree that mere submission of a proposal to ERDA constitutes reasonable planning as defined by the Guidelines for RD&D Planning as set forth in this rulemaking. Nor does it agree that projects funded by ERDA are necessarily the types of programs that consumers should support through rates.

Four responders expressed concern that the guidelines were not incorporated into Section 154.38 (d) (5) (iv) or at least into Part 2 of the Commission's General Rules — General Policy and Interpretations. It was pointed out that the last sentence of Section 154.38 (d) (5) (iv) implies a different set of guidelines. It

was stated that the guideline originally detailed in the Background section of the Notice of Proposed Rulemaking (as herein modified) should be available for reference readily.

The Commission finds merit in this suggestion and will incorporate the modified guidelines into Section 35.22(c) and Section 154.38(d)(5)(iii).

The Commission considers these guidelines appropriate for a company to use in evaluating its RD&D projects and programs whether or not advance approval is sought from the Commission.

Demonstration Plants

Seven responders expressed concern about the workability of attempting to determine what part of a commercial scale demonstration plant is RD&D and what part is normal business investment. The Commission observes that most responders apparently were viewing the difficulty from the state of technology and the state of demonstration of that technology as of calender year 1976. They appear to ignore, for example, the situation that may exist a decade from now when advances will have been made in demonstration of new technology.

The Commission acknowledges that each commercial scale demonstration plant will necessarily be judged individually. The Commission accepts the viewpoint that if, for example, forty percent of a demonstration plant is based on proven technology it does not follow that the entire plant will operate at least forty percent successfully. The unproven technology pervades the entire plant operation since all parts of the plant must work successfully together or the plant will not produce the product for which it was designed.

We will attempt to clarify the partitioning of estimated demonstration plant costs between RD&D and normal business investment by means of examples. The cost of real estate on which to erect a demonstration plant would generally not be

included as RD&D cost provided it had other potential use to the utility or resale value.

An appurtenant coal mine, provided the usefulness of its coal output is not limited to the specific RD&D project, could not be considered RD&D expense. However, the coal actually used in the RD&D project would be so considered.

Coal handling and pulverizing equipment or a short pipeline and compressors to link a substitute pipeline gas demonstration plant to the existing pipelines would generally be considered to involve no technical innovation risk. Whether or not the cost of these items will be included in RD&D costs will depend on whether or not and to what extent they have usefulness if the demonstration plant is later abandoned.

Take for example a commercial scale demonstration plant for pipeline gas initiated a decade from now after one or more similar plants had been built and demonstrated to be commercially feasible. If the new plant would be a duplicate of a proven plant, no part of its cost would be RD&D. If a major portion of the new plant were innovative with attendant risk and if that portion, if unsuccessful, could later be replaced with proven technology for that portion, then this innovative portion could be considered RD&D, and the balance would be considered as normal business investment, and appropriately included in rates. An innovative commercial scale plant based on new technology proven on a pilot plant scale to be technically feasible, but not proven to be commercially feasible, could be considered 100% RD&D.

Eight responders request clarification of the acceptability of RD&D for demonstration plants sponsored "narrowly." (See also our discussion of ad hoc RD&D consortia under Definitions.)

The Gas Research Institute commented, "In its proposed rulemaking, the Commission expresses a strong preference for

arrangements in which high-risk demonstration projects are conducted by RD&D organizations jointly supported by jurisdictional companies having a large number of ratepayers. (Notice, p.6.) Although GRI expects to be in a position to conduct demonstration projects of this type, it is not yet clear to us that this is necessarily the preferred method of conducting all such projects. In some instances, individual or small groups of companies are likely to be able to conduct demonstration projects more expeditiously and at lower cost to the ratepayers. Accordingly, in the administration of the proposed regulations, we strongly urge the Commission to consider demonstration projects on a case-by-case basis to determine the most appropriate form of organization, financing, and management."

In the same paragraph on p.6 of the Notice we also said "Advance approval of portions of demonstration project costs as R&D expense may be granted to either individual jurisdictional companies or R&D organizations."

We also said (Notice, p.4) "For R&D organizations supported by *more than a single* jurisdictional company, we are proposing to offer the option of the R&D organization requesting advance approval as a substitute for individual jurisdictional companies filing for advance approval." (emphasis supplied). We wish to reiterate our desire that large scale demonstration plants be funded by RD&D organizations jointly supported by jurisdictional companies having a large number of ratepayers to minimize the rate impact on individual consumers. We also wish to make clear that we will not tolerate a proliferation of simultaneous large scale demonstration plants in the name of RD&D to be funded by natural gas consumers if there is major duplication of new technology. These plants require enormous sums of capital and we must be cognizant of the impact of each proposal on the public as well as the cumulative impact on the public. We therefore urge the companies we regulate to proceed

with caution in proposing the construction of large scale demonstration plants that will be funded by the natural gas consumers of this country.

Six responders expressed concern that the proposed rulemaking discussed "commercial scale demonstration facilities" but did not discuss smaller demonstration facilities. We point out that the existing Regulation includes in the definition of RD&D

> ". . . development activities including experiment, design, installation, construction, or operation" and
>
> "The term includes but is not limited to: all such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources for example, an experimental plant synthetically producing gas from liquid hydrocarbons."

This definition is still in force and adequately covers the smaller demonstration plant.

The Public Utilities Commission of the State of California expressed concern that the proposed rulemaking would treat activities that are not within the definition of RD&D as RD&D. They observed "the inability to finance a commercial operation through normal methods is a consideration totally irrelevant to a determination of whether such an operation is R&D."

This concern could be a real possibility, however, as stated earlier each proposed demonstration plant will be considered individually and the processes within each plant will be reviewed in light of the Commission's definitions of RD&D to ensure that only the portion of any proposal representing true research and development are financed by gas consumers.

Two responders called attention to the problem that might exist if a company or a consortium of companies proposes a cost

shared project to the Federal Government, for example ERDA, that will go forward if accepted and funded by ERDA but will be cancelled or delayed if it is not so accepted. We agree that this could cause complication. Two options exist: (1) the applicant(s) can apply for treatment of appropriate costs as RD&D in the conventional manner without advance approval, or (2) the applicant(s) can apply for advance approval. If advance approval is granted and the project is delayed or cancelled because of government action or inaction the dollar outlay will be relatively small and the economic impact should be negligible. A similar situation of modification of plans because of new information could exist if the Federal government is not involved. The same prerogative to delay or cancel RD&D projects that have been submitted in good faith to the Commission for advance approval and so approved exists for projects where the decision is completely controlled internally in the jurisdictional company or RD&D organization.

Effects of Approval

Nine responders expressed concern about the effect of advance approval of RD&D projects or programs. They requested assurance that having received advance approval this would be reflected by subsequent approval of incorporation of such RD&D costs in rates.

The Commission agrees that this should be assured. We will clarify present Section 35.22(b) that will become Section 35.22(e) to read in part: (words added are underscored)

> (e) An electric utility may submit a research development and demonstration cost adjustment provision to flow through changes in its expenditures for research, development and demonstration. Changes permitted hereunder include both expenditures chargeable to operations as well as rate base treatment of the balances in account 188 as hereinafter defined. *Except in the case of expenditures approved pursuant to Section 35.22(b)* no RD&D adjustment provision shall become effective until authorized by

the Commission. No request for an RD&D adjustment provision will be considered by the Commission unless the proposed clause indicates the following terms and conditions:

* * * * *

We will clarify Section 154.38(d)(5)(ii)(c) which will become Section 154.38(d)(5)(v)(c) to read:

(c) *Except in the case of expenditure approval pursuant to Section 154.38 (d)(5)(ii)* RD&D expenditures chargeable to operations which may be tracked and reflected in rates shall be the amount which actual RD&D expenditures during the 12-month period ending 3 months prior to a proposed rate adjustment exceed or are less than (1) the amount allowed in the company's last rate proceeding or the average of 3 years RD&D expenditures if such rate adjustment is an initial filing under the subsection; or (2) the actual RD&D expenditures in the company's last prior rate adjustment under this section.

We will clarify Section 154.38(d)(5)(ii)(e) that will become Section 154.38(d)(5)(v)(e) to read:

(e) Any tariff filing made by the company to increase its rates to its customers shall meet the notice requirements of Section 154.22, which provide, in pertinent part, that the filing be filed with the Commission and posted (as defined in Section 154.16) at least 45 days prior to the date on which any change(s) in its existing rates is to become effective. Simultaneously with the above filing, the company shall furnish the Commission, jurisdictional customers, and interested State Commissions a report containing detailed computations which clearly show the derivation of the proposed rate adjustment. The effect upon jurisdictional rates shall be determined by computing the unit change (either increase or decrease) based upon jurisdictional sales volumes for the 12-months prior to the proposed rate adjustment. Any RD&D expenditure which the company has been allowed to track by another regulatory body shall be clearly designated and treated in such a manner so as to avoid double recovery. Each rate adjustment shall become

effective on the proposed effective date without suspension provided that any rate increase shall be subject to reduction and refund of any portion found after hearing to be unjustified by a final Commission order, *except in the case of rate adjustments based on expenditures approved pursuant to Section 154.38(d)(5)(ii).*

Errors and Omissions

The Notice of Proposed Rulemaking contains a typographical error on page 2, line 6. The word "amount" should read "account".

On page 13 before "Submission of Comments" the following statement should appear

"In order to accommodate the additions set forth above Section 154.38(d)(5)(ii) becomes Section 154.38(d)(5)(v)."

Involvement of State Public Utility Regulatory Commissions

All state commissions who responded as well as the National Association of Regulatory Utility Commissioners expressed interest in participating in the review and approval of proposed research programs to be supported by one or more companies subject to the jurisdiction of this Commission and one or more state regulatory commissions. The procedure to accomplish this will be through noticing the proceeding for advance approval of rate base treatment for major RD&D expenditures. This will permit State regulatory commissions to determine their interest in participation on a case by case basis. They will then have the opportunity to request a cooperative procedure under the provisions of 18 CFR Section 1.37 or to file a notice of intervention under 18 CFR Section 1.8.

Comments Opposed to Rulemaking

Five responders objected to the proposed rulemaking on the grounds that the benefits would be minimal and the new procedures might delay action on needed research or cause added burden to the utility. All five responders represented electric utilities. No gas industry responder opposed the rulemaking.

The rulemaking is not intended to require any jurisdictional company (directly or through an RD&D organization) to secure advance approval for any RD&D expenditure as a condition to including the cost in the company's rate base. On the contrary, a company could make such expenditures, regardless of amount, that it believes qualify for rate base treatment as RD&D expenses, and include them in any RD&D adjustment clause filing previously authorized by the Commission, without securing any advance approval. In such circumstances under the existing provisions of Sections 35.22 and 154.38(d)(5), which are not proposed to be changed, the consequent rate increase could become effective but subject to subsequent rejection and refund if found to be unjustified, by a final Commission order.

One responder recommended that the Commission establish broad guidelines on the level of expenditures for utilities to follow rather than the proposed rulemaking. The Commission rejects this as not responsive to the Commission's responsibility under the Federal Power Act and the Natural Gas Act.

Other Objections

Two responders presented the opinion that contrary to the stated objectives of the Commission in the notice of proposed rulemaking, the changes substitute the judgment of the FPC staff for the judgment of the utility company to a greater extent. The Commission does not accept this. Particularly with the guidelines now developed and the clarifications made in this Order we believe that the intended objectives will be accomplished.

One responder commented that the current EPRI formula for distribution of RD&D costs is inequitable. The Commission does not consider the present rulemaking the appropriate vehicle for discussion of this issue.

One responder objected to the concept that EPRI should be delegated authority to request advance Commission approval.

EPRI derives its authority from those who support it. We believe that this also is not an appropriate issue for the Commission in the rulemaking.

Concern was expressed by the American Public Power Association that the proposed rulemaking would somehow result in altering the formula for contributions to EPRI (or to the associations that financially support it). Concern was expressed that utilities that purchase power at wholesale rather than generate power would be charged for EPRI RD&D support twice both in the wholesale transactions and in the retail transactions. The Commission notes that this is a potential problem and will deal with it on a case by case basis.

Three responders recommended that the $50,000 minimum in Section 35.22 for programs to be eligible for consideration for advance approval should be raised. The Commission does not believe there is advantage to a jurisdictional company in raising this limit. The $50,000 limit is only the minimum project or program cost that the Commission will consider. As we have pointed out repeatedly above, application for advance approval is always a voluntary option.

One responder suggested that the Commission accept New York State Public Service Commission report 149b in lieu of the proposed guidelines. The Commission does not consider this appropriate.

One responder commented that individual company RD&D programs should not have to be coordinated with Federal RD&D programs and other relevant private efforts. The Commission feels strongly that a reasonable effort should be made to avoid unwarranted duplication of RD&D expenditures and unwarranted costs to the ratepayer.

The Commission, in order to provide consistency, has changed the term "Research and Development" to "Research, Development and Demonstration" and "R&D" to "RD&D" in certain

other paragraphs of the Regulations not otherwise affected. Some errors and omissions of the Regulations have been corrected as noted below.

The Commission finds:

(1) The notice and opportunity to participate in this rulemaking proceeding with respect to the matters presently before this Commission through the submission, in writing, of data, views, comments and suggestions in the manner described above, are consistent and in accordance with all procedural requirements therefore as prescribed by Section 553 of Title 5 of the United States Code.

(2) The amendments to Part 35 of the Regulations under the Federal Power Act, Part 101, the Commission's Uniform System of Accounts prescribed for Class A and Class B Public Utilities and Licensees, Part 154 of the Regulations under the Natural Gas Act, and Part 201, the Commission's Uniform System of Accounts for Natural Gas Companies, all in Chapter I, Title 18 of the Code of Federal Regulations, herein prescribed, are necessary and appropriate to the administration of the Federal Power Act and the Natural Gas Act.

(3) Since the revisions prescribed herein, which were not included in the Notice of Proposed Rulemaking, are of a minor nature and consistent with the prime purpose of the Proposed Rulemaking, further notice in compliance with the notice provision of Section 553 of Title 5 of the United States Code is unnecessary.

(4) In order to encourage accelerated research, development and demonstration programs, and in order to clarify the Commission's accounting and rate treatment regulations, good cause exists to make this Order effective upon issuance.

The Commission, acting pursuant to the provisions of the Federal Power Act, as amended, particularly Sections 205, 206, 209, 301, 302, 303, 304 and 309 thereof (49 Stat. 851, 852, 853, 854, 855, 856, 858; 16 U.S.C. 824d, 824e, 824h, 825, 825a,

825b, 825c, 825h) and of the Natural Gas Act, as amended, particularly Sections 4, 5, 8, 9, 10, 16 and 17 thereof (52 Stat. 822, 823, 825, 826, 830; 76 Stat. 72; 15 U.S.C. 717c, 717d, 717g, 717h, 717i, 717o, 717p), *orders:*

(A) Part 35, Subchapter B, Regulations under the Federal Power Act, Chapter I, Title 18, Code of Federal Regulations, is amended as follows:

Section 35.13(b)(4)(iii) is amended to read:

(iii) The statement of the cost . . .

* * * * *

Statement El — Research, development and demonstration. A statement disclosing all expenditures in Account 188, Research, Development, and Demonstration Expenditures, showing each venture separately as of the beginning and the end of Periods I and II, immediately following and increased or reduced, as appropriate, by the applicable accumulated deferred income taxes. This statement shall also include all related amortization for the same period.

* * * * *

Section 35.22(a) is amended to read:

(a) Advance Commission approval may be requested of rate treatment for RD&D expenditures of $50,000 or more related to a project undertaken by the company or as part of a project undertaken by others, or for a group of projects which, in the aggregate, cost $50,000 or more. This approval may be requested regardless of whether the RD&D is undertaken by the utility or by another party or organization. Approval requests shall describe the project in such detail as to satisfy the Commission that the project expenditure involved qualifies as being valid, justifiable, and reasonable. In addition, the request shall specifically include the estimated cost of the project and a description of the utility's expenditure percentage in the total project program. When a utility participates in a joint project, the contractual agreements should provide the utility complete access to cost records and results related to the project. Records shall be kept so that unscheduled progress reports

may be called for as determined by the Commission. Approval requests shall justify any conduct of or partial support of large-scale demonstration facilities by clearly identifying and justifying the portions of the capital and operating costs which require the high-risk financial support necessary to the pursuit of RD&D. The justification of support for a large-scale demonstration facility shall include a statement as to the planned accounting treatment of revenue which may be derived from the facility's product and of proceeds which may be derived from the sale of the facility.

A new Section 35.22(b) is added as follows:

(b) Where more than one jurisdictional company proposes to support an RD&D organization as defined below, an approval request may be submitted to the Commission by the RD&D organization covering the organization's RD&D program as defined below. Approval by the Commission of such RD&D program shall constitute approval of individual companies' contributions to the RD&D organization. Organizations eligible to receive contributions from companies and to request program approval from the Commission under this section may be RD&D organizations broadly supported by a number of energy industry sectors (e.g., natural gas, electric power, petroleum, coal, nuclear energy); RD&D organizations broadly supported by a single industry sector; regional organizations that work primarily on problems of a regional nature; or consortia of companies that jointly support RD&D programs for the collective benefit of their ratepayers.

A new Section 35.22(c) is added as follows:

(c) RD&D organizations or individual jurisdictional companies requesting and receiving advance RD&D program approval shall annually submit a five-year program plan at least 180 days prior to the commencement of the five-year period of the plan. The plan shall clearly state the objectives within and beyond the five-year period and clearly relate the objectives to the interests of the ratepayers, the public, and the industry and to the objectives of other major research organizations, particularly the

U.S. Energy Research and Development Administration. The plan shall contain sufficient budget, technical, and schedule details to afford an understanding of the work to be performed, to allow an assessment of the probability of success, and to permit comparison with other organizations' research plans. The commencement date and expected termination date for individual research, development, and demonstration projects to be initiated during the first year of the plan will be given along with expected annual costs. The plan shall discuss the RD&D efforts and progress since the preparation of the program plan submitted the previous year and shall explain any changes that have been made in objectives, priorities, and budgets since the plan of the previous year. The plan shall identify all jurisdictional companies that will support the program and their budgeted support. The plan shall identify those persons involved in the development, review, and approval of the plan and shall state the amount of effort contributed and the degree of control exercised by each. The principal tests for the adequacy of the proposed plan shall be the following guidelines:

1. Evidence that the RD&D objectives of the company or research organizations have been clearly established.

2. Evidence that the plan evolves from these RD&D objectives and adequately utilizes the viewpoints of scientific, engineering, industry, economic, consumers and environmental interests.

3. Evidence that an effective mechanism exists and is used for coordinating this research and development plan with other relevant efforts of national scope.

4. Evidence that the project or program is well conceived and, if successful, has a reasonable chance of benefitting the ratepayer in a reasonable period of time, having due regard to the basic, exploratory or applied nature of each submitted RD&D project.

5. Evidence that whatever achievements may result, including knowledge gained or technology developed from the RD&D effort, if any, will accrue to the benefit

of the sponsoring jurisdictional company(s) and its/their customers.

A new Section 35.22(d) is added as follows:

(d) Within 90 days of filing of the five-year RD&D plan as defined above, the Commission will state its decision with respect to acceptance, partial acceptance, or rejection of the plan, or, when the complexity of issues in the plan so requires, will set a date certain by which a final decision will be made, or will order the matter set for hearing. Partial rejection of a plan by the Commission will be accompanied by a decision as to the partial level of acceptance which will be proportionally applied to all contributions listed for jurisdictional companies in the plan. Approval by the Commission of a five-year plan constitutes approval for rate treatment of all projects identified as starting during the first year of the approved plan. Continued rate treatment will be dependent upon review and evaluation of subsequent annual reports.

In order to accommodate the additions set forth above, Section 35.22(b) will become 35.22(e). It will be modified to read:

(e) An electric utility may submit a research, development and demonstration cost adjustment provision to flow through changes in its expenditures for research, development and demonstration.[3] Changes permitted hereunder include both expenditures chargeable to operations as well as rate base treatment of the balances in Account 188 as hereinafter defined. Except in the case of expenditures approved pursuant to Section 35.22(b), no RD&D adjustment provision shall become effective until authorized by the Commission. No request for an RD&D adjustment provision will be considered by the Commission unless the proposed clause indicates the following terms and conditions:

(1) The RD&D expenditure * * *

---

[3] For purposes of this subsection, RD&D expenditures represent those costs includible in Account 188, Research, Development and Demonstration expenditures.

* * * * *

(3) RD&D expenditures chargeable to operations which may be tracked and reflected in rates shall be the amount which actual RD&D expenditures during the 12-month period ending 3 months prior to a proposed rate adjustment exceed or are less than (a) the amount allowed in the company's last rate proceeding, or the average of 3 years RD&D expenditures if such rate adjustment is an initial filing under this subsection; or (b) the actual RD&D expenditures in the company's last prior rate adjustment under this subsection.

(4) RD&D expenditures chargeable to account 188 which are eligible to receive rate base treatment * * * For purposes of determining the balance which may be tracked, the company shall reduce the balance of account 188 by all money received related to its RD&D expenditures and shall increase or reduce such account balance, as appropriate, by the applicable accumulated deferred income taxes * * *

(5) * * * Any RD&D expenditures for which the company has been allowed * * *

(6) * * *

A statement as to the anticipated scope and objective of the RD&D and * * *

* * * * *

(B) The Commission's Uniform Systems of Accounts for Class A and Class B Public Utilities and Licensees prescribed by Part 101, Chapter I, Title 18 of the Code of Federal Regulations, is amended as follows:

(1) The Definitions are amended by revising Definition 27B, "Research and Development." As amended, this portion of the Definitions reads:

Definitions

* * * * *

27. A. * * *

B. "Research, Development, and Demonstration" (RD&D) means expenditures incurred by public utilities and licensees either directly or through another person or organization (such as research institute, industry association, foundation, university, engineering company or similar contractor) in pursuing research, development, and demonstration activities including experiment, design, installation, construction, or operation. This definition includes expenditures for the implementation or development of new and/or existing concepts until technically feasible and commercially feasible operations are verified. Such research, development, and demonstration costs should be reasonable related to the existing or future utility business, broadly defined, of the public utility or licensee or in the environment in which it operates or expects to operate. The term includes, but is not limited to: all such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of alternate sources of electricity; and the costs of obtaining its own patent, such as attorney's fees expended in making and perfecting a patent application. The term includes preliminary investigations and detailed planning of specific projects for securing for customers nonconventional electric power supplies that rely on technology that has not been verified previously to be feasible. The term does not include expenditures for efficiency surveys; studies of management, management techniques and organization; consumer surveys, advertising, promotions, or items of a like nature.

* * * * *

(2) Amend the Chart of Balance Sheet Accounts by revising the title for account 188, "Research and Development Expenditures" to read 188, Research, Development, and Demonstration

Expenditures. As amended, the Chart of Balance Sheet Accounts reads:

BALANCE SHEET ACCOUNTS
(Chart of Accounts)

ASSETS AND OTHER DEBITS

* * * * *

4. Deferred Debits

* * * * *

188 Research, development, and demonstration expenditures.

* * * * *

(3) The text of the Balance Sheet Accounts is amended as follows:

(a) Amend paragraph A of account 103, "Experimental Electric Plant Unclassified," by revising the term "research and development." As amended, this portion of account 103 reads:

103 Experimental electric plant unclassified.

A. This account shall include the cost of electric plant which was constructed as a research, development, and demonstration plant under the provisions of paragraph C, * * *

* * * * *

(b) Amend the first sentence of paragraph C, account 107, "Construction Work in Progress — Electric," by revising the term "research and development." As amended, this portion of account 107 reads:

107 Construction work in progress — Electric.

* * * * *

C. Expenditures on research, development, and demonstration projects for construction of utility facilities are to be included in a separate subdivision in this account. Records must be maintained to show separately

each project along with complete detail of the nature and purpose of the research, development and demonstration project together with the related costs.

(c) Amend paragraphs A, C and D and revise the title of account 188, "Research and Development Expenditures." As amended, these portions of account 188 read:

188 Research, development and demonstration expenditures.

A. This account shall be charged with the cost of all expenditures coming within the meaning of Research, Development, and Demonstration (RD&D) of this uniform systems of accounts (see definition 27.B.) except those expenditures properly chargeable to account 107, Construction Work in Progress — Electric.

B. * * *

C. In certain instances a company may incur large and significant research, development, and demonstration expenditures which are nonrecurring and which would distort the annual research, development and demonstration charges for the period. * * *

D. The entries in this account must be so maintained as to show separately each project along with complete details of the nature and purpose of the research, development, and demonstration project together with the related costs.

(3) The text of the Operating Revenue Accounts is amended by revising item 6 of account 456, "Other Electric Revenues." As amended, this portion of account 456 reads:

456 Other electric revenues.

* * * * *

Items

* * * * *

6. Include in a separate subaccount revenues in payment for rights and/or benefits received from others which are realized through research, development, and demonstration ventures. * * *

(4) The text of the Operation and Maintenance Expense Accounts is amended by revising the references to the term "research, and development" to read research, development, and demonstration, throughout various accounts. As amended, these portions of the text of the Operation and Maintenance Expense accounts read:

OPERATION AND MAINTENANCE EXPENSE ACCOUNTS

1. Power Production Expenses

A. Steam Power Generation

Operation

* * * * *

506 Miscellaneous steam power expenses.

* * * * *

Items

* * * * *

14. Research, development, and demonstration expenses.

* * * * *

524 Miscellaneous nuclear power expenses.

* * * * *

Items

* * * * *

14. Research, development, and demonstration expenses.

* * * * *

539 Miscellaneous hydraulic power generation expenses.

* * * * *

Items

* * * * *

16. Research, development, and demonstration expenses.

* * * * *

549 Miscellaneous other power generation expenses.

* * * * *

Items

* * * * *

16. Research, development, and demonstration expenses.

* * * * *

2. Transmission Expenses

Operation

566 Miscellaneous transmission expenses.

* * * * *

Items

* * * * *

14. Research, development, and demonstration expenses.

* * * * *

3. Distribution Expenses

Operation

* * * * *

588 Miscellaneous distribution expenses.

* * * * *

Items

* * * * *

13. Research, development, and demonstration expenses.

* * * * *

7. Administrative and General Expenses

Operation

* * * * *

930.2 Miscellaneous general expenses.

* * * * *

Items

* * * * *

4. Research, development, and demonstration expenses not charged to other operation and maintenance expense accounts on a functional basis.

* * * * *

(C) Part 141, Subchapter D, Approved Forms, Federal Power Act, Chapter I, Title 18, Code of Federal Regulations, is amended as follows:

Section 141.1(d) is amended as follows:

(d) This annual report contains the following schedules:

* * * * *

Research, Development, and Demonstration Activities.

* * * * *

(C) Part 154, Subchapter E, Regulations under the Natural Gas Act, Chapter I, Title 18, Code of Federal Regulations, is amended as follows:

Section 154.38(d)(5)(i) is amended to read:

(i) Commission approval may be requested of rate treatment for RD&D expenditures of $50,000 or more related to a project undertaken by the company or as part of a project undertaken by others, or for a group of projects which, in the aggregate, cost $50,000 or more when advance assurance of rate base treatment is desired. This approval may be requested regardless of whether the RD&D is undertaken by the utility or by another party or organization. Approval requests shall describe the project in such detail as to satisfy the Commission that the project expenditure involved qualifies as being valid, justifiable, and reasonable. In addition, the request shall specifically include the estimated cost of the project and a description of the

utility's expenditure percentage in the total project program. When a utility participates in a joint project, the contractual agreements should provide the utility complete access to cost records and results related to the project. Records shall be kept so that unscheduled progress reports may be called for as determined by the Commission. Approval requests shall justify any conduct of or partial support of large-scale demonstration facilities by clearly identifying and justifying the portions of the capital and operating costs which require the high risk financial support necessary to the pursuit of RD&D. The justification of support for a large-scale demonstration facility shall include a statement as to the planned accounting treatment of revenue which may be derived from the facility's product and of proceeds which may be derived from the sale of the facility.

A new Section 154.38(d)(5)(ii) is added as follows:

(ii) Where more than one jurisdictional company proposes to support an RD&D organization as defined below, an approval request may be submitted to the Commission by the RD&D organization covering the organization's RD&D program as defined below. Approval by the Commission of such RD&D program shall constitute approval of individual companies' contributions to the RD&D organization. Organizations eligible to receive contributions from companies and to request program approval from the Commission under this section may be RD&D organizations broadly supported by a number of energy industry sectors (e.g., natural gas, electric power, petroleum, coal, nuclear energy); RD&D organizations broadly supported by a single industry sector; regional organizations that work primarily on problems of a regional nature; or consortia of companies that jointly support RD&D programs for the collective benefit of their ratepayers.

A new Section 154.38(d)(5)(iii) is added as follows:

(iii) RD&D organizations or individual jurisdictional companies requesting RD&D approval shall annually submit a five-year program plan at least 180 days prior to the commencement of the five-year period of the plan. The plan

shall clearly state the objectives within and beyond the five-year period and clearly relate the objectives to the interests of the ratepayers, the public and the industry and to the objectives of other major research organizations, particularly the U. S. Energy Research and Development Administration. The plan shall contain sufficient budget, technical, and schedule details to afford an understanding of the work to be performed, to allow an assessment of the probability of success, and to permit comparison with other organizations' research plans. The commencement date and expected termination date for individual research, development, and demonstration projects to be initiated during the first year of the plan will be given along with expected annual costs. The plan shall discuss the RD&D efforts and progress since the preparation of the program plan submitted the previous year and shall explain any changes that have been made in objectives, priorities, and budgets since the plan of the previous year. The plan shall identify all jurisdictional companies that will support the program and their budgeted support. The plan shall identify those persons involved in the development, review, and approval of the plan and shall state the amount of effort contributed and the degree of control exercised in each. The principal tests for the adequacy of proposed plan shall be the following guidelines.

1. Evidence that the RD&D objectives of the company or research organization have been clearly established.

2. Evidence that the plan evolves from these RD&D objectives and adequately utilizes the viewpoints of scientific, engineering, industry, economic, consumers and environmental interests.

3. Evidence that an effective mechanism exists and is used for coordinating this research and development plan with other relevant efforts of national scope.

4. Evidence that the project or program is well conceived and has a reasonable chance of benefitting the ratepayer in a reasonable period of time, having due

regard to the basic, exploratory or applied nature of each submitted RD&D project.

5. Evidence that whatever achievements may result, including the knowledge gained or technology developed from the RD&D effort, if any, will accrue to the benefit of the sponsoring jurisdictional company(s) and its/their customers.

A new Section 154.38(d)(5)(iv) is added as follows:

(iv) Within 90 days of filing of the five-year RD&D plan as defined above, the Commission will state its decision with respect to acceptance, partial acceptance, or rejection of the plan, or, when the complexity of issues in the plan so requires, will set a date certain by which a final decision will be made, or will order the matter set for hearing. Partial rejection of a plan by the Commission will be accompanied by a decision as to the partial level of acceptance which will be proportionally applied to all contributions listed for jurisdictional companies in the plan. Approval by the Commission of a five-year plan constitutes approval for rate treatment of all projects identified as starting during the first year of the approved plan. Continued rate treatment will be dependent upon review and evaluation of subsequent annual reports.

"In order to accommodate the additions set forth above Section 154.38(d)(5)(ii) is redesignated as Section 154.38(d)(5)(v) and modified to read:

A natural gas pipeline company may submit a research, development and demonstration cost adjustment provision to flow through changes in its expenditures for research, development and demonstration.[4] Changes permitted hereunder include both expenditures chargeable to operations as well as rate base treatment of the balances in account 188 as hereinafter defined. No RD&D adjustment provision shall become effective until authorized by the Commission.

---

[4] For purposes of this subsection, RD&D expenditures represent those cost includible in Account 188, Research, Development and Demonstration expenditures.

No request for RD&D adjustment provision will be considered by the Commission unless the proposed clause indicates the following terms and conditions:

(a) The RD&D expenditures adjustment shall be reflected in the company's rates only when it amounts to at least one-tenth of 1 mill ($0.0001) per thousand cubic feet of annual jurisdictional sales. Rate changes shall be applied to the commodity component of the existing rates of a pipeline company's two-part rates and to the volumetric rates of a pipeline company's one-part rates.

(b) Rate changes shall be computed and filed not more frequently than semi-annually. Rate changes by companies having Commission approved PGA clauses should be computed and filed to the extent practicable to coincide with the proposed effective date of a PGA rate change.

(c) Except in the case of expenditure approval pursuant to Section 154.38(d)(5)(ii) RD&D expenditures chargeable to operations which may be tracked and reflected in rates shall be the amount which actual RD&D expenditures during the 12-month period ending 3 months prior to a proposed rate adjustment exceed or are less than (1) the amount allowed in the companies last rate proceeding or the average of 3 years RD&D expenditures if such rate adjustment is an initial filing under the subsection; or (2) the actual RD&D expenditures in the company's last prior rate adjustment under this section.

(d) RD&D expenditures in account 188 which are eligible to receive rate base treatment and which may be tracked and reflected in rates shall be the amount which the actual balances in such account during the 12-month period ending 3 months prior to the proposed rate adjustment exceed or are less than the balances in such account as of the date of this regulation, if an initial filing under this section, or the balances in account 188 included in the company's last prior rate adjustment under this subsection. For the purpose of determining the balance which may be tracked the company shall reduce the balance in account 188 by all moneys recorded in account

495 related to its RD&D expenditures and shall increase or reduce such account balance, as appropriate, by the applicable accumulated deferred income taxes. The rate of return used by the company to determine the rate effect of the rate base treatment of the balance in account 188 shall be the rate of return last allowed by the Commission during the previous 3-year period. If there has been no such rate of return allowed during the previous 3-year period, then, in the absence of evidence submitted to the contrary, the return utilized shall be the present interest rate used for computing refunds as specified in Section 154.67.

(e) Any tariff filing made by the company to increase its rates to its customers shall meet the notice requirements of Section 154.22, which provide, in pertinent part, that the filing be filed with the Commission and posted (as defined in Section 154.16) at least 45 days prior to the date on which any change(s) in its existing rates is to become effective. Simultaneously with the above filing, the company shall furnish the Commission, jurisdictional customers, and interested State Commissions a report containing detailed computations which clearly show the derivation of the proposed rate adjustment. The effect upon jurisdictional rates shall be determined by computing the unit change (either increase or decrease) based upon jurisdictional sales volumes for the 12-months ending 3 months prior to the proposed rate adjustment. Any RD&D expenditure for which the company has been allowed to track by other regulatory body shall be clearly designated and treated in such a manner so as to avoid double recovery. Each rate adjustment shall become effective on the proposed effective date without suspension provided that except in the case of rate adjustments based on expenditures approval pursuant to Section 154.38(d)(5)(ii) any rate increase shall be subject to reduction and refund of any portion found after hearing to be unjustified by a final Commission order.

(f) In addition to the above required report containing the derivation of the proposed rate, the following additional data shall be submitted as part of the application:

A statement as to the anticipated scope and objective of the RD&D and the relationship of such objective to the jurisdictional service for which the tracking is to apply. If the tracking is not to apply to certain jurisdictional service but is to apply to others, a statement as to the reasons for such determination.

(g) No company shall be required to reduce its rate under this subsection by an increment exceeding the aggregate increases allowed thereunder.

Section 154.63(f) is amended by adding a new Schedule E-4, renumbering present Schedule E-4 as Schedule E-5, and revising Schedule N-11.

As amended, Section 154.63(f) reads:

§ 154.63 Changes in a tariff, executed service agreement or part thereof.[1]

* * * * *

(f) **Description of statements.** * * *

* * * * *

Schedule E-4 setting forth monthly balances included in Account 188, Research, development, and demonstration expenditures, separately for each project therein immediately followed and increased or reduced, as appropriate, by the applicable accumulated deferred income taxes. This schedule shall also include all related amortization for the same periods.

Schedule E-5 showing the computations, cross-references and sources from which the data in computing claimed working capital are derived.

* * * * *

Schedule N-11. A complete description of amounts, by venture, recorded in Account 188, Research, development, and demonstration expenditures, as of the beginning and end of the test period, increased or reduced, as appropriate, by the applicable accumulated deferred income taxes. This

schedule shall also include all related amortization for the same period.

* * * * *

(E) The Commission's Uniform Systems of Accounts for Class A and Class B Natural Gas Companies prescribed by Part 201, Chapter I, Title 18 of the Code of Federal Regulations, is amended as follows:

(1) The Definitions are amended by revising Definition 28B, "Research and Development." As amended, this protion of the Definitions reads:

Definitions

* * * * *

28. A. * * *

B. "Research, Development, and Demonstration" (RD&D) means expenditures incurred by natural gas companies either directly or through another person or organization (such as research institute, industry association, foundation, university, engineering company, or similar contractor) in pursuing research, development, and demonstration activities including experiment, design, installation, construction, or operation. This definition includes expenditures for the implementation or development of new and/or existing concepts until technically feasible and commercially feasible operations are verified. Such research, development, and demonstration costs should be reasonably related to the existing or future utility business, broadly defined, of the public utility or licensee or in the environment in which it operates or expects to operate. The term includes, but is not limited to: all such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources, for example, an experimental coal gasification plant or an experimental plant

synthetically producing gas from liquid hydro-carbons); and the costs of obtaining its own patent, such as attorney's fees expended in making and perfecting a patent application. The term includes preliminary investigations and detailed planning of specific projects for securing for customers non-conventional pipeline gas supplies that rely on technology that has not been verified previously to be feasible. The term does not include expenditures for efficiency surveys; studies of management, management techniques and organization; consumer surveys, advertising, promotions, or items of a like nature.

* * * * *

(2) Amend the Chart of Balance Sheet Accounts by revising the title for account 188, "Research and Development Expenditures" to read 188, Research, Development, and Demonstration Expenditures. As amended, the Chart of Balance Sheet Accounts reads:

BALANCE SHEET ACCOUNTS
(Chart of Accounts)

ASSETS AND OTHER DEBITS

* * * * *

4. Deferred Debits

* * * * *

188 Research, development, and demonstration expenditures.

* * * * *

(3) The text of the Balance Sheet Accounts is amended as follows:

(a) Amend paragraph A of account 103, "Experimental Gas Plant Unclassified," by revising the term "research and development." As amended, this portion of account 103 reads:

103 Experimental gas plant unclassified.

A. This account shall include the costs of gas plant which was constructed as a research, development, and demonstration project under the provisions of paragraph C, * * *

* * * * *

(b) Amend the first sentence of paragraph C, account 107, "Construction Work in Progress — Gas," by revising the term "research and development." As amended, this portion of account 107 reads:

107 Contruction work in progress — Gas.

* * * * *

C. Expenditures on research, development, and demonstration projects for construction of utility facilities are to be included in a separate subdivision in this account. Records must be maintained to show separately each project along with complete detail of the nature and purpose of the research, development, and demonstration project together with the related costs.

* * * * *

(c) Amend paragraphs A, C and D and revise the title of account 188, "Research and Development Expenditures." As amended, these portions of account 188 read:

188 Research, development, and demonstration expenditures.

A. This account shall be charged with the cost of all expenditures coming within the meaning of Research, Development, and Demonstration (RD&D) of this Uniform Systems of Accounts (see definition 28.B), except those expenditures properly chargeable to Account 107, Construction Work in Progress — Gas.

B. * * *

C. In certain instances a company may incur large and significant research, development, and demonstration expenditures which are nonrecurring and which would distort the annual research, development, and demonstration charges for the period. * * *

D. The entries in this account must be so maintained as to show separately each project along with complete detail of the nature and purpose of the research, development, and demonstration project together with the related costs.

(3) The text of the Operating Revenue Accounts is amended by revising item 8 of account 495, "Other Gas Revenues." As amended, this portion of account 495 reads:

495 Other gas revenues.

* * * * *

Items

* * * * *

8. Include in a separate subaccount revenues in payment for rights and/or benefits received from others which are realized through research, development, and demonstration ventures. * * *

(4) The text of the Operation and Maintenance Expense Accounts is amended by revising the references to the term "research and development" to read research, development, and demonstration, throughout various accounts. As amended, these portions of the text of the Operation and Maintenance Expense Accounts read:

OPERATION AND MAINTENANCE EXPENSE ACCOUNTS

1. Production Expenses

A. Manufactured Gas Production

A 1. Steam Production

Operation

* * * * *

703 Miscellaneous steam expenses.

* * * * *

Items

* * * * *

12. Research, development, and demonstration expenses.

* * * * *

A 2. Manufactured Gas Production

Operation

* * * * *

735 Miscellaneous production expenses.

* * * * *

Items

* * * * *

32. Research, development, and demonstration expenses.

* * * * *

B. Natural Gas Production

B 1. Natural Gas Production and Gathering

Operation

* * * * *

759 Other expenses.

* * * * *

Items

* * * * *

5. Research, development, and demonstration expenses.

* * * * *

B 2. Products Extraction

Operation

* * * * *

776 Operation supplies and expenses.

* * * * *

Items

* * * * *

8. Research, development, and demonstration expenses.

* * * * *

2. Natural Gas Storage Expenses

* * * * *

A. Underground Storage Expenses

* * * * *

824 Other expenses.

This account shall include the cost of labor, material used and expenses incurred in operating underground storage plant, and other underground storage operating expenses, not includible in any of the foregoing accounts, including research, development and demonstration expenses.

* * * * *

B. Other Storage Expenses

Operation

* * * * *

841 Operation labor and expenses.

* * * * *

Items

* * * * *

17. Research, development, and demonstration expenses.

* * * * *

3. Transmission Expenses

Operation

* * * * *

859 Other expenses.

This account shall include the cost of labor, material used and expenses incurred in operating transmission system equipment and other transmission system expenses not includible in any of the foregoing accounts, including research, development and demonstration expenses.

* * * * *

4. Distribution Expenses

Operation

* * * * *

880 Other expenses.

This account shall include the cost of distribution of maps and records, distribution office expenses, and the cost of labor and material used and expenses incurred in distribution systems operations not provided for elsewhere, including the expenses of operating street lighting systems and research, development and demonstration expenses.

* * * * *

8. Administrative and General Expenses

Operation

* * * * *

930.2 Miscellaneous general expenses.

* * * * *

Items

* * * * *

4. Research, development, and demonstration expenses not charged to other operation and maintenance expense accounts on a functional basis.

* * * * *

(F) Part 260, Subchapter G, Approved Forms, Natural Gas Act, Chapter I, Title 18, Code of Federal Regulations, is amended as follows:

§ 260.1 Form No. 2, Annual report for natural gas companies (Class A and Class B).

* * * * *

(c) This annual report contains the following schedules:

* * * * *

System Maps.

Research, Development, and Demonstration Activities.

* * * * *

(G) Effective for the reporting year 1977, certain schedule pages of FPC Form No. 1, Annual Report for Electric Utilities, Licensees and Others (Class A and Class B), prescribed by Section 141.1, Chapter I, Title 18 of the Code of Federal Regulations, are editorially amended, all as set out in Attachment A, hereto.

(H) Effective for the reporting year 1977, certain schedule pages of FPC Form No. 2, Annual Report for Natural Gas Companies (Class A and Class B), prescribed by Section 260.1, Chapter I, Title 18 of the Code of Federal Regulations, are editorially amended, all as set out in Attachment B, hereto.

(I) This order is effective upon issuance.

(J) The Secretary shall cause prompt publication of this order to be made in the Federal Register.

By the Commission.

(S E A L)

Kenneth F. Plumb,
Secretary.

Attachments

Docket No. RM76-17 Attachment A, page 1 of 3
FPC Form No. 1
Annual report of..... .....Year ended December 31, 19.....

STATEMENT A — COMPARATIVE BALANCE SHEET
Assets and Other Debits

Line No.	Title of Account (a)	Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or (Decrease) (e)
1	Utility Plant*		$	$	$
2	Utility Plant (101-106, 114).....	113			
3	Construction Work in Progress (107).....	113			
4	Total Utility Plant.....		$	$	$
5	Less Accumulated Provision for Deprec., Amort. and Depletion (108, 111, 115).....	113			
6	Net Utility Plant, Less Nuclear Fuel...	113	$	$	$
7	Nuclear Fuel (120.1-120.4).....	200			
8	Less: Accum. Prov. For Amort. of Nuclear Fuel Assemblies (120.5).....	200			
9	Net Nuclear Fuel.....		$	$	$
10	Net Utility Plant.....		$	$	$
11	Gas Stored Underground-Noncurrent (117)....	207A			
12	Utility Plant Adjustments (116).....	112			
13	Other Property and Investments				
14	Nonutility Property (121) (less Accum. Prov. for Depr. & Amort. incl. in (122)$.....	201			
15	Investment in Associated Companies (123)...	202			
16	Investment in Subsidiary Companies (Cost $_____)(123.1).....	203			
17	Other Investments (124).....	202			
18	Special Funds (125 - 128).....				
19	Total Other Property and Investments.....		$	$	$
	Current and Accrued Assets				
20	Cash (131).....	---			
21	Special Deposits (132 - 134).....	---			
22	Working Funds (135).....	---			
23	Temporary Cash Investments (136).....	202			
24	Notes and Accts. Receivable(less Accumulated Provision for Uncoll. Accts.) (141-144)..	204			
25	Receivables from Assoc. Companies(145,146)..	206			
26	Materials and Supplies (151-157, 163).....	207			
27	Gas Stored Underground-Current(164).....	207A			
28	Prepayments (165).....	---			
29	Interest and Dividends Receivable (171)....	---			
30	Rents Receivable (172).....	---			
31	Accrued Utility Revenues (173).....	---			
32	Misc. Current and Accrued Assets (174).....	210			
33	Total Current and Accrued Assets.....		$	$	$
	Deferred Debits				
34	Unamort. Debt Expense (181).....	211			
35	Extraordinary Property Losses (182).....	210			
36	Prelim. Survey and Investigation Charges(183).	212			
37	Clearing Accounts (184).....	---			
38	Temporary Facilities (185).....	---			
39	Miscellaneous Deferred Debits (186).....	214			
40	Deferred Losses from Disposition of Utility Plant (187).....	214A			
41	~~Research and Development Expenditures (188)~~	448			
42	Unamortized Loss on Reacquired Debt (189)..	214B			
43	Accumulated Deferred Income Taxes (190)...	214C			
44	Total Deferred Debits.....		$	$	$
45	Total Assets and Other Debits.....		$	$	$

Revise:

Research, development and demonstration expenditures (188). . . . . .

* These accounts are conformed to NARUC accounts in which amounts recorded in FPC accounts 118 and 119 are classified to the accounts indicated under this caption.

Rev (12-74)

Docket No. RM76-17

FPC Form No. 1

Annual report of .....Year ended December 31, 19....

RESEARCH AND DEVELOPMENT ACTIVITIES

1. Describe and show below costs incurred and accounts charged during the year for technological ~~research and development~~ projects initiated, continued or concluded during the year. Report also support to others during the year for jointly-sponsored projects. (Recipient must be identified regardless of affiliation.) For any ~~research and development~~ work carried on by the respondent in which there is a sharing of costs with others, show separately the respondent's cost for the year and cost chargeable to others. (See definition of ~~research and development~~ in Uniform System of Accounts.)

2. Indicate in column (a) the applicable classification, as shown below; list in column (b) all ~~R & D~~ items performed internally and those items performed outside the company costing $5,000 or more, briefly describing the specific area of ~~research or development~~ (such as safety, corrosion control, pollution, automation, measurement, insulation, type of appliance, etc.). Items under $5,000 may be grouped by classifications provided that the number of items so grouped is indicated. Under Other, A. (6) and B. (4) items should be classified by type of ~~research or development~~ activity.

Classifications -

A. Electric Utility ~~R & D~~ Performed Internally
- (1) Generation
  - a. Hydroelectric:
    - i. Recreation, fish and wildlife
    - ii. Other hydroelectric
  - b. Fossil-fuel steam
  - c. Internal combustion or gas turbine
  - d. Nuclear
  - e. Unconventional generation
  - f. Siting and heat rejection
- (2) System Planning, Engineering and Operation.

Line No.	Classification (a)	Description (b)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		

Revise:
research, development, and demonstration

Revise:
RESEARCH, DEVELOPMENT, AND DEMONSTRATION ACTIVITIES

Revise:
RD&D

Revise:
research, development, or demonstration

Docket No. RM76-17
FPC Form No. 1

Attachment A, page 3 of 3

Annual report of.....Year ended December 31, 19....

~~RESEARCH AND DEVELOPMENT ACTIVITIES~~ (Continued)

(3) Transmission
a. Overhead
b. Underground
(4) Distribution
(5) Environment (other than equipment)
(6) Other (Classify and include items in excess of $5,000.)
(7) Total Cost Incurred

B. Electric Utility ~~R & D~~ Performed Externally
(1) Research Support to the Electric Research Council or the Electric Power Research Institute
(2) Research Support to Edison Electric Institute
(3) Research Support to Nuclear Power Groups
(4) Research Support to Others (Classify)
(5) Total Cost Incurred

3. Show in column (c) all costs incurred for ~~R & D~~ performed internally and column (d) all costs incurred for ~~R & D~~ performed externally during the current year. Show in column (e) the account number charged with expenses during the year or the account to which amounts were capitalized during the year, listing amounts in account 107, Construction Work in Progress, first. Show in column (f) the amounts related to the account charged in column (e). Show in column (g) the total unamortized accumulation of costs of projects. The total of column (g) will equal the balance in account 188, Research and Development Expenditures, outstanding at the end of the year.

4. If costs have not been segregated for ~~research~~ and development activities or project estimates may be submitted for columns (c), (d) and (f) with such amounts identified by "Est."

5. Report separately research and related testing facilities operated by the respondent.

Line No.	Costs Incurred Internally Current Year (c)	Costs Incurred Externally Current Year (d)	AMOUNTS CHARGED IN CURRENT YEAR TO Account (e)	Amount (f)	Unamortized Accumulation (g)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					

Revise:
RESEARCH, DEVELOPMENT, AND DEMONSTRATION ACTIVITIES (Continued)

Revise:
RD&D

Revise:
research, development, and demonstration

Research, Development, and Demonstration Expenditures

Docket No. RM76-17
FPC Form No. 2

Attachment B, page 1 of 3

Annual Report of . . . . . Year ending December 31, 19 . .

STATEMENT A COMPARATIVE BALANCE SHEET
Assets and Other Debits

Line No.	Title of Account (a)	Page No. (b)	Balance Beginning of Year (c)	Balance End of Year (d)	Increase or (Decrease) (e)
	Utility Plant*		$	$	$
1	Utility plant (101-106, 114)	113			
2	Construction Work in Progress (107)	113			
3	Total Utility Plant		$	$	$
4	Less Accumulated Provision for Depreciation, Amortization and Depletion (108-111, 115)	113			
5	Net Utility Plant	113	$	$	$
6	Gas Stored Underground-Noncurrent (117)	207A			
7	Utility Plant Adjustments (116)	112			
	Other Property and Investments				
8	Nonutility Property (121) (less Accum. Prov. for Depr. & Amort. included in (122) $)	201			
9	Investment in Associated Companies (123)	202			
10	Investment in Subsidiary Companies (Cost $) (123.1)	203			
11	Other Investments (124)	202			
12	Special Funds (125 - 128)	—			
13	Total Other Property and Investments		$	$	$
	Current and Accrued Assets				
14	Cash (131)	—			
15	Special Deposits (132 - 134)	—			
16	Working Funds (135)	—			
17	Temporary Cash Investments (136)	202			
18	Notes and Accounts Receivable (less Accumulated Provision for Uncoll. Accts.) (141 - 144)	204			
19	Receivables from Assoc. Companies (145, 146)	206			
20	Materials and Supplies (151 - 156, 163)	207			
21	Gas Stored Underground-Current (164.1)	207A			
22	Liquefied Natural Gas Stored (164.2)	207A			
23	Prepayments (165)	210			
24	Advances for Gas Exploration, Development and Production (166)	210B			
25	Other Advances for Gas (167)	210B			
26	Interest and Dividends Receivable (171)	—			
27	Rents Receivable (172)	—			
28	Accrued Utility Revenues (173)	—			
29	Misc. Current and Accrued Assets (174)	340			
30	Total Current and Accrued Assets		$	$	$
	Deferred Debits				
31	Unamortized Debt Expense (181)	211			
32	Extraordinary Property Losses (182)	230			
33	Prelim. Survey and Investigation Charges (183.1, 183.2)	232			
34	Clearing Accounts (184)	—			
35	Temporary Facilities (185)	—			
36	Miscellaneous Deferred Debits (186)	214			
37	Deferred Losses from Disposition of Utility Plant (187)	214A			
38	~~Research & Development Expenditures (188)~~	572			
39	Unamortized Loss on Reacquired Debt (189)	214B			
40	Accumulated Deferred Income Taxes (190)	214C			
41	Unrecovered Purchased Gas Costs (191)	—			
42	Total Deferred Debits		$	$	$
43	Total Assets and Other Debits		$	$	$

Revise:

Research, Development, and Demonstration Expenditures (188) . . . . . .

*These accounts are conformed to NARUC accounts in which amounts recorded in FPC accounts 118 and 119 are classified to the accounts indicated under this caption.

Docket No. RM76-17
FPC Form No. 2

Annual report of .....Year ended December 31, 19....

~~RESEARCH AND DEVELOPMENT ACTIVITIES~~

1. Describe and show below costs incurred and accounts charged during the year for technological ~~research and development~~ projects initiated, continued or concluded during the year. Report also support to others during the year for jointly-sponsored projects. (Recipient must be identified regardless of affiliation.) For any ~~research and development~~ work carried on by the respondent in which there is a sharing of costs with others, show separately the respondent's cost for the year and cost chargeable to others. (See definition of ~~research and development~~ in Uniform System of Accounts.)

2. Indicate in column (a) the applicable classification, as shown below; list in column (b) ~~all~~ A & B items performed internally and those items performed outside the company costing $5,000 or more, briefly describing the specific area of ~~research or development~~ (such as safety, corrosion control, pollution, automation, measurement, insulation, type of appliance, etc.). Items under $5,000 may be grouped by classifications provided that the number of items so grouped is indicated. Under Other, A. (13) and B. (2) items should be classified by type of ~~research or development~~ activity.

Classifications-
A. ~~Gas R & D~~ Performed Internally
(1) Pipeline
a. Design
b. Efficiency
(2) Compressor Station
a. Design
b. Efficiency
(3) System Planning, Engineering and Operation
(4) Transmission Control and Dispatching
(5) LNG Storage and Transportation
(6) Underground Storage

Line No.	Classification (a)	Description (b)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		

Revise:
RESEARCH, DEVELOPMENT, AND DEMONSTRATION ACTIVITIES

Revise:
research, development, and demonstration

Revise:
RD&D

Revise:
research, development, or demonstration

Docket No. RM76-17
FPC Form No. 2

Annual report of.....Year ended December 31, 19....

~~RESEARCH AND DEVELOPMENT ACTIVITIES (Continued)~~

(7) Other Storage
(8) New Appliances and New Uses
(9) Gas Exploration, Drilling, Production and Recovery
(10) Coal Gasification
(11) Synthetic Gas
(12) Environmental Research
(13) Other (Classify and include items in excess of $5,000.)
(14) Total Cost Incurred

B. Gas ~~R & D~~ Performed Externally
(1) Research Support to American Gas Association
(2) Research Support to Others (Classify)
(3) Total Cost Incurred

3. Show in column (c) all costs incurred for ~~R & D~~ performed internally and column (d) all costs incurred for ~~R & D~~ performed externally during the current year. Show in column (e) the account number charged with expenses during the year or the account to which amounts were capitalized during the year, listing amounts in Account 107, Construction Work in Progress, first. Show in column (f) the amounts related to the account charged in column (e). Show in column (g) the total unamortized accumulation of costs of projects. The total of column (g) will equal the balance in account 188, ~~Research and Development Expenditures~~, outstanding at the end of the year.

4. If costs have not been segregated for ~~research and development~~ activities or project, estimates may be submitted for columns (c), (d) and (f) with such amounts identified by "Est."

5. Report separately research and related testing facilities operated by the respondent.

Line No.	Costs Incurred Internally Current Year (c)	Costs Incurred Externally Current Year (d)	AMOUNTS CHARGED IN CURRENT YEAR TO Account (e)	Amount (f)	Unamortized Accumulation (g)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					

Revise:
RESEARCH, DEVELOPMENT, AND DEMONSTRATION (Continued)

Revise:
RD&D

Revise:
research, development, and demonstration

Revise:
Research, Development, and Demonstration Expenditures

Rev (12-72)

ORDER DENYING REHEARING;
ACCOUNTING — RULEMAKING;
RESEARCH AND DEVELOPMENT

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION
(18 CFR Part 35, 154)

Before Commissioners: RICHARD L. DUNHAM, CHAIRMAN;
DON S. SMITH, AND JOHN H.
HOLLOMAN III.

RESEARCH, DEVELOPMENT AND
DEMONSTRATION; ACCOUNTING;
ADVANCE APPROVAL OF RATE TREATMENT

Docket No. RM76-17

ORDER DENYING PETITION FOR REHEARING OF ORDER NO. 566

(Issued August 3, 1977)

On July 5, 1977 the People of the State of California and the Public Utilities Commission of the State of California (California) filed an application for rehearing of Order No. 566 issued on June 3, 1977 in Docket No. RM76-17. In Order No. 566, 42 FR 30150, the Commission prescribed changes in accounting and rate treatment for research, development and demonstration expenditures. In its application for rehearing, California alleges the following:

1) the Commission erred in expanding the definition of research and development, thereby apparently burdening natural gas consumers with all of the financial risks generated by projects intended to verify commercial feasibility, and in doing so has abused its discretion;

2) the Commission failed to state clearly the extent to which it has expanded the definition of research and development; and

3) the Commission left uncertain whether Order No. 566 may be applied retroactively.

California's allegation that the Commission abused its discretion in expanding the definition of R&D is without merit. The Commission explained in the Notice of Proposed Rulemaking the necessity for extending to commercial-scale demonstration projects the rate treatment which is currently allowed for small scale research, development and demonstration facilities:

> "This Commission recognizes the need for a significantly expanded national energy research and development program as part of the solution to the Nation's problem of increasing inbalance between energy supply and demand." (mimeo, page 2)

> "We are encouraged by the increased emphasis R&D has been given by some elements of the electric power and natural gas industries as demonstrated by the support given to the Electric Power Research Institute by jurisdictional electric power companies and by a number of requests for advanced approval of individual R&D projects by jurisdictional gas companies. *However, we have not seen the level of concentrated and coordinated effort by the natural gas industry that the public interest requires to significantly advance the state of technology to relieve the severe curtailment of service now being experienced by interstate natural gas pipelines.*" (mimeo, page 2, emphasis supplied)

> "Many of the energy technologies under serious investigation in the nation's R&D are not only known to be technically feasible but also are in operation on a laboratory scale, or on a working scale, as in a pilot plant. However, uncertainty with regard to the economics of commercial-scale operation is, in many cases, so great as to preclude normal methods of financing the construction of the first, or the first several commercial-scale facilities. *Therefore, because of the Nation's need for rapid development of new energy technology, the construction of commercial-scale*

demonstration facilities must be regarded as a vital part of the national R&D program." (mimeo, page 6, emphasis supplied)

By expanding the definition of R&D to include full scale demonstration projects, the Commission will achieve the permissible end of encouraging the development of new technology to insure a continuing supply of energy to meet jurisdictional customer's needs.

The Commission has not left ratepayers unprotected. It does not intend to allow RD&D treatment for projects which have been shown to be commercially feasible. If jurisdictional utilities or RD&D organizations request advance approval for a project or plan, it will receive close scrutiny. As the Commission said in Order No. 566 (mimeo ed., pages 11 and 12):

> "... each proposed demonstration plant will be considered individually and the process will be reviewed in light of the Commission's definitions of RD&D to ensure that only the portion of any proposal representing true research and development are (sic) financed by gas consumers."

The action the Commission has taken is within its authority. The Commission's discretion is broad; Section 16 of the Natural Gas Act[1] and Section 309 of the Federal Power Act[2] state, in part:

> "The Commission shall have power to perform any and all acts, and to prescribe, issue, make, amend, and rescind such orders, rules and regulations as it may find necessary or appropriate to carry out the provisions of this a(A)ct ..."

We have discussed the reasons for including full-scale demonstration plants in the June 17 Notice and Order No. 566 and have stated a strong preference for arrangements where high-risk demonstration projects would be supported by a large number of ratepayers.

---

[1] 52 Stat. 829, 15 U.S.C. 717n

[2] 49 Stat. 858-859, U.S.C. 825h

With respect to California's second allegation, the Commission did not fail to state clearly the extent to which it expanded the definition of R&D. It added two new sentences to Definition 28.B., as follows:

> "... This definition includes expenditures for the implementation or development of new/and or existing concepts until technically feasible and economically feasible operations are verified ... The term includes preliminary investigations and detailed planning of specific projects for securing for customers non-conventional pipeline gas supplies that rely on technology that has not been verified previously to be feasible ..."

California questions how commercial feasibility is to be verified. Commercial feasibility refers to a determination that a technology proved in a pilot plant will be operable on a commercial scale as well. For our purpose, it does not refer to whether the cost of the final product will be low enough to make it competitive with other processes now, but it does refer to an evaluation that the cost of the final product will be reasonable at some future date. It is anticipated that the need for verification will require the construction of at least one demonstration plant. We discussed that problem in Order No. 566 at page 11 (memo ed.), where we said:

> "We also wish to make clear that we will not tolerate a proliferation of simultaneous large scale demonstration plants in the name of RD&D to be funded by natural gas consumers if there is major duplication of new technology. These plants require enormous sums of capital and we must be cognizant of the impact of each proposal on the public as well as the cumulative impact on the public. We therefore urge the companies we regulate to proceed with caution in proposing the construction of large scale demonstration plants that will be funded by natural gas consumers of this country."

Finally, California points out that the Commission's statement is Order No. 566 (memo ed., page 5) that it was "clarifying" the previously existing definition of R&D might result in uncertainty about whether the Commission intended to give retroactive effect to its expansion of the definition to include full-scale demonstration projects. The Commission did not intend Order No. 566 to be applied so as to allow retroactive rate base treatment of amounts which would not be accorded such treatment under prior definitions of R&D. Rate base treatment and tracking of costs associated with commercial-scale demonstration projects are to be prospective from June 3, 1977, the date of issuance of Order No. 566.

The Commission finds:

California's petition for rehearing received July 5, 1977 presents no factual or legal reasons for the Commission to modify Order No. 566.

The Commission orders:

(A) California's petition for rehearing of Commission Order No. 566 issued June 3, 1977 in Docket No. RM76-17 prescribing changes in accounting and rate treatment for research, development and demonstration expenditures is hereby denied.

(B) The Secretary shall cause prompt publication of this Order to be made in the Federal Register.

By the Commission

(S E A L)

Lois D. Cashell,
Acting Secretary

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

RECONSIDERATION; REHEARING

Before Commissioners: DON S. SMITH, ACTING CHAIRMAN; MATTHEW HOLDEN, JR., AND GEORGE R. HALL.

RESEARCH, DEVELOPMENT AND DEMONSTRATION; ACCOUNTING; ADVANCE APPROVAL OF RATE TREATMENT

Docket No. RM76-17

ORDER DENYING MOTION FOR RECONSIDERATION

(Issued January 9, 1978)

On October 1, 1977, pursuant to the provisions of the Department of Energy Organization Act (DOE Act), Public Law 95-91, 91 Stat 565 (August 4, 1977) and Executive Order No. 12009, 42 Fed. Reg. 46267 (September 15, 1977), the Federal Power Commission (FPC) ceased to exist and its functions and regulatory responsibilities were transferred to the Secretary and the Federal Energy Regulatory Commission (FERC) which, as an independent commission within the Department of Energy, was activated on October 1, 1977.

The "savings provisions" of Section 705(b) of the DOE Act provide that proceedings pending before the FPC on the date the DOE Act takes effect shall not be affected and that orders shall be issued in such proceedings as if the DOE Act had not been

enacted. All such proceedings shall be continued and further actions shall be taken by the appropriate component of DOE now responsible for the function under the DOE Act and regulations promulgated thereunder. The functions which are the subject of these proceedings were specifically transferred to the FERC by Section 402(a)(1) or (2) of the DOE Act.

The joint regulation adopted on October 1, 1977, by the Secretary and the FERC entitled "Transfer of Proceedings to the Secretary of Energy and the FERC," 10 CFR ...., provided that this proceeding would be continued before the FERC. The FERC takes action in this proceeding in accordance with the above mentioned authorities.

On September 2, 1977, Transwestern Pipeline Company (Transwestern) tendered for filing a petition to intervene and an application for rehearing of the FPC's August 3, 1977 order denying rehearing of Order No. 566.[1] By order issued September 30, 1977, the FPC found that a petition for rehearing of an order denying rehearing would not lie and that Transwestern's application should be treated as a petition for reconsideration. On October 13, 1977 Transwestern filed an application for rehearing of the Commission's September 30, 1977 order. For the reasons stated below, the Commission herein denies reconsideration of the FPC's August 3, 1977 order and denies Transwestern's petition to intervene. Transwestern's October 13, 1977 application has been denied by operation of law, and that denial will not be disturbed.

This proceeding commenced with the issuance of a Notice of Proposed Rulemaking (NPRM) on June 17, 1976. In the Notice it was announced that the rulemaking would (1) establish sound

[1] *Research, Development and Demonstration; Accounting; Advance Approval of Rate Treatment*, Docket No. RM76-17, Order No. 566 issued June 3, 1977.

and comprehensive planning of research programs as the preferred test for granting advance appoval of R&D expenditures, (2) recognize participation in full-scale demonstration facilities, under certain conditions, as a justifiable R&D expenditure and (3) assure FPC review and decision at an early planning phase of R&D program development whenever advance approval is requested. NPRM, at 3.

On June 3, 1977, the FPC issued Order No. 566, in which the existing definitions[2] of R&D as established in Order No. 483[3] were amended to include expenditures on full-scale demonstration projects. The word "demonstration" was included in the definitions and the following sentence was added: "This definition includes expenditures for the implementation or development of new and/or existing concepts until operations become technically and economically feasible." Order No. 566, *supra*, at 3.[4] Additionally, the term "R&D" was changed to "RD&D".

---

[2] *Uniform System of Accounts for Public Utilities and Licensees*, 18 C.F.R., Part 101, Definition 27B (1977); *Uniform System of Accounts for Natural Gas Companies*, 18 C.F.R., Part 201, Definition 28B (1977).

[3] *Research, and Development, Accounting and Reporting*, 49 FPC 1065 (1973), *rhg. den.*, 49 FPC 1464 (1973).

[4] Definition 28B, *supra*, n. 2, was amended to read as follows:

28. A. * * *

B. "Research, Development, *and Demonstration*" *(RD&D)* means expenditures incurred by natural gas companies either directly or through another person or organization (such as research institute, industry association, foundation, university, engineering company, or similar contractor) in pursuing research, development, *and demonstration* activities including experiment, design, installation, construction, or operation. *This definition includes expenditures for the implementation or development of new and/or existing concepts until technically feasible and commercially feasible operations are verified.* Such research, development, *and demonstration* costs should be reasonable related to the existing or future utility business, broadly defined, of the public utility or licensee or in the environment in which it operates or expects to operate. The term includes, but is not limited to: all

On July 5, 1977, the People of the State of California and the Public Utilities Commission of the State of California (California) petitioned for rehearing of Order No. 566. California objected to the expansion of the definitions of research and development to include expenditures on commercial-scale demonstration projects. Secondly, California expressed concern that the inclusion may be applied retroactively.

By order issued August 3, 1977, the FPC denied California's petition for rehearing and retained the expanded definitions of "RD&D". Additionally, the FPC stated unequivocally that the expanded definitions represent a substantive change from the Order No. 483 definitions and that the change was prospective in effect:

> The Commission did not intend Order No. 566 to be applied so as to allow retroactive rate base treatment of amounts which would not be accorded such treatment under prior definitions of R&D. Rate base treatment and

---

such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources, for example, and experimental coal gasification plant or an experimental plant synthetically producing gas from liquid hydro-carbons); and the costs of obtaining its own patent, such as attorney's fees expended in making and perfecting a patent application. *The term includes preliminary investigations and detailed planning of specific projects for securing for customers non-conventional pipeline gas supplies that rely on technology that has not been verified previously to be feasible.* The term does not include expenditures for efficiency surveys; studies of management, management techniques and organization; consumer surveys, advertising, promotions, or items of a like nature. Order No. 566,

Order No. 566, *supra*, n.2, mimeo ed. at 37 (emphasis indicates added material). Definition 27B, *supra*, n.2, was similarly amended.

> tracking of costs associated with commercial-scale demonstration projects are to be p. ospective from June 3, 1977, the date of issuance of Order No. 566.

Research, Development and Demonstration; Accounting; Advance Approval of Rate Treatment, Docket No. RM76-17, order issued August 3, 1977.

On September 2, 1977, Transwestern tendered its application for rehearing of the FPC's August 3, 1977 order. In accordance with the FPC's September 30, 1977 order, the Commission will regard Transwestern's application as a petition for reconsideration.

In its September 2, 1977 pleading Transwestern objects to the FPC's determination that the inclusion of commercial-scale projects costs within the definitions of "RD&D" should be effective prospectively from the date of Order No. 566. Transwestern argues, first, that the FPC went beyond the scope of its June 17, 1976 Notice of Proposed Rulemaking in determining that the inclusion of commercial-scale project costs should be prospective in effect. According to Transwestern, the FPC indicated in its NPRM that it did not intend to change what constituted an "R&D" expenditure which qualified for rate base and tracking treatment but, rather, was only clarifying the definitions of "RD&D". As evidence of this, Transwestern quotes the Commission as saying in the NPRM (at 3):

> It is not intended herein to alter the application of current regulations except in cases where application is made for advance assurance of rate treatment for R&D expenditures.

If the FPC was announcing an intent only to clarify the existing definitions of R&D, then, Transwestern argues, since a clarification cannot by its nature be prospective only, the FPC must have been announcing that the inclusion of commercial-scale demonstration project costs within the definitions of R&D would be retroactive. Thus, Transwestern concludes, the FPC acted

beyond the scope of its NPRM when it stated in its August 3, 1977 order that the revised definitions would be effective prospectively.

This first argument of Transwestern's overlooks the fact that the FPC announced in its NPRM that one of the three purposes of this rulemaking was to "recognize participation in full-scale demonstration facilities, under certain conditions, as a justifiable R&D expenditure . . . . ." NPRM at 3. That was a clear pronouncement of an intent to substantively revise the FPC Regulations to enlarge the class of expenditures which would be allowed "R&D" rate treatment. There was nothing in the NPRM to suggest that the recognition of full-scale demonstration costs as justifiable R&D expenditures would be retroactive. The sentence quoted by Transwestern certainly did not indicate that the FPC intended its recognition of full-scale demonstration project costs to be a mere interpretation of regulations which, as an interpretation, could be retroactive. That sentence, when read in context,[5] was an assurance that rate-base treatment for R&D expenditures would not be precluded to those who did not seek advance approval.

Transwestern argues, secondly, that in Order No. 566 the FPC stated that it was responding to a "request for clarification" in revising the definitions of R&D to include commercial-scale project costs. This, Transwestern contends, is an indication that

[5] The paragraph from which the sentence quoted by Transwestern was taken is as follows:

> The provisions of this proposed rulemaking augment current regulations dealing with application for advance approval of R&D expenditures, which is an optional procedure offered in Section 35.22, Subchapter B, Regulations Under the Federal Power Act, and Section 154.38(d)(5), Subchapter E, Regulations Under the Natural Gas Act. *It is not intended herein to alter the application of current regulations except in cases where application is made for advance assurance of rate treatment for R&D expenditures.*

NPRM, *supra*, at 3 (emphasis indicates the portion quoted by Transwestern).

the FPC was merely "clarifying", i.e., interpreting, the existing definitions, and that as an interpretation, the revision of the definition should be retroactive. It should be noted, however, that the Commission was responding to an August 4, 1976 comment filed by the People of the State of California and the Public Utilities Commission of the State of California (California) in which it was pointed out (at 3) that while in its NPRM the Commission stated it intended to include full-scale demonstration projects within the scope of "justifiable R&D expenditures" the Commission had not proposed a concomitant broadening of the definitions of R&D. Additionally, the FPC was responding to a September 1, 1976 comment filed by Tennessee Gas Pipeline Corporation (Tennessee) in which it was similarly noted (at 5) that while in the NPRM the FPC had proposed to recognize expenditures on full-scale demonstration projects as proper for "R&D" treatment, the NPRM did not revise the existing definitions of R&D. Tennessee requested that the Commission "clarify" its existing R&D definitions so as to reflect the proposed recognition of full-scale demonstration projects. In responding to such "requests for clarification", the Commission was "clarifying" its existing definitions of R&D to make the definition conform to its proposed recognition of full-scale demonstration project costs as being justifiable R&D expenditures. If the recognition of such costs was not to be retroactive, certainly the concomitant revision of the definition to reflect such recognition could not be retroactive.

As a third argument, Transwestern contends that it was "retroactive rulemaking" for the FPC to allow only prospectively rate base treatment and tracking of costs associated with commercial-scale demonstration project costs. To the contrary, it would have been retroactive rulemaking for the FPC to have attempted to apply its revised definition of RD&D to the past so as to retroactively enlarge the rate-paying obligation of certain jurisdictional pipelines' customers.

Fourthly, Transwestern alleges that the FPC's statement in its August 3, 1977 order that it was substantially changing the existing definitions of R&D rather than merely interpreting them was contrary to a plain reading of the definitions. Contrary to Transwestern, however, not only was there no language including commercial-scale project costs in the existing definitions of R&D, but there was no language in Order No. 483 which interpreted the definitions so as to include such costs within them.

Fifthly, Transwestern notes that in *Transwestern Pipeline Company*, Docket No. RP75-74, a principal controversy now pending before the Presiding Administrative Law Judge is whether the Order No. 483 definition of R&D encompasses costs associated with Transwestern's WESCO coal gasification project, a project which, according to Transwestern, is a "commercial venture". Transwestern alleges that by making the revised definition set forth in Order No. 566 prospective in effect, the FPC discriminated against Transwestern and denied it due process since, Transwestern contends, Order No. 566 will effectively dispose of the contested R&D issue in Docket No. RP 75-74. In response, the Commission observes that insofar as this proceeding involves a rulemaking which is generally applicable there has been no discrimination against Transwestern. Furthermore, just because the substantive revisions of the Order No. 483 definition are effective prospectively, neither Transwestern nor the party opposing it in Docket No. RP75-74 have been denied due process: there has been no change in the definition on the basis of which the issue in Docket No. RP75-74 is to be decided.[6]

[6] The substantive, prospective revision of Definition 28B in Order No. 566 may have the practical effect of clarifying what Transwestern alleges to be the heretofore uncertain scope of the Order No. 483 definition of R&D. The Commission notes, however, that, assuming with Transwestern that the Order No. 483 definition was uncertain as to scope, Order No. 566 still cannot be said to deny

Lastly, Transwestern alleges that the Commission erred in that there is no rational basis for not allowing retroactive rate base treatment of commercial-scale demonstration project expenditures. the basis for the Commission's action, however, is the obvious and implicit one of avoiding retroactivity of a substantive rulemaking. Additionally, the recognition of commercial-scale demonstration project costs as justifiable R&D expenditures was to encourage the construction of such facilities. NPRM, at 6. Making the expansion of the definition of "R&D" retroactive would not contribute to achieving that end.

The Commission concludes that in its September 2, 1977 filing Transwestern does not show good cause for the Commission to reconsider the FPC's August 3, 1977 order in this proceeding. Therefore, Transwestern's September 2, 1977 petition shall be denied.

On October 13, 1977 Transwestern filed an application for rehearing of the FPC's September 30, 1977 order holding that Transwestern's September 2, 1977 application for rehearing would not lie. In its October 13, 1977 filing, Transwestern alleges that new matter was injected into this rulemaking in the FPC's August 3, 1977 order, the "new matter" being, according to Transwestern, the FPC's statement that rate base and tracking treatment of commercial-scale demonstration projects would be effective prospectively. That statement, however, can only be seen as being "new matter" if it is assumed that in announcing the three purposes of this rulemaking, NPRM at 3, the FPC had stated either expressly or by implication that it was intending a rulemaking which would be retroactive in effect. Such an intent cannot be drawn from the Notice of Proposed Rulemaking, however.

---

due process: the retroactive clarification of uncertain law is not unfair. *See:* 1 K. Davis, *Administrative Law Treatise*, §5.09 (1958); K. Davis, *Administrative Law Treatise*, §5.09 (Supp., 1970).

The Commission concludes that the FPC did not inject new matter into this rulemaking in its August 3, 1977 order. Transwestern's October 13, 1977 application for rehearing has been denied by operation of law pursuant to Section 1.34 of the Commission's Rules of Practice and Procedure, and the Commission finds that good cause does not exist to disturb that denial.

On September 2, 1977 Transwestern filed a request for leave to intervene out of time for the limited purpose of tendering its associated September 2, 1977 application for rehearing. In support of the petition, Transwestern alleges that the NPRM in this proceeding implied that the FPC's recognition of full-scale demonstration project costs would be retroactive and that it was not until the FPC's August 3, 1977 order that Transwestern was made aware that the recognition of such costs would be prospective. The Commission has already herein determined that there was sufficient notice of prospective effect. Accordingly, the Commission concludes that Transwestern's request should be denied.

The Commission finds:

(1) Good cause exists to deny Transwestern's September 2, 1977 request for reconsideration of the FPC's August 3, 1977 order in this proceeding.

(2) Good cause exists to deny Transwestern's September 2, 1977 request for leave to intervene out of time.

The Commission orders:

(A) Transwestern's September 2, 1977 request for reconsideration is hereby denied.

(B) Transwestern's September 2, 1977 request for leave to intervene out of time is hereby denied.

(C) The Secretary shall cause prompt publication of this order to be made in the Federal Register.

By the Commission.

(SEAL)

Kenneth F. Plumb,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

OPINION NO. 43

TRANSWESTERN PIPELINE COMPANY

Docket No. RP75-74

OPINION AND ORDER AFFIRMING IN PART AND MODIFYING IN PART INITIAL DECISION

Issued: June 25, 1979

UNITED STATES OF AMERICA
FEDERAL REGULATORY COMMISSION

TRANSWESTERN PIPELINE COMPANY — Docket No. RP75-74

OPINION NO. 43

APPEARANCES

Thomas L. Wylie, James W. McCartney, and *Jack Head* for Transwestern Pipeline Company.

W. M. Island, T. D. Clarke, W. M. Pfeiffer, and *R. M. Loch* for Pacific Lighting Service Company and Southern California Gas Company.

Martin A. Mattes, John S. Fick, J. Calvin Simpson, and *Richard D. Gravelle* for the People of the State of California and the Public Utilities Commission of the State of California.

Dale A. Wright, Gregory Grady, Alfred O. Holl, and *William J. Sears* for Cities Service Gas Company.

Donnell R. Fullerton, Denis H. Melvin, Eugene R. Elrod, and *James L. Blasiak* for the staff of the Federal Energy Regulatory Commission.

PIPELINE TARIFFS;
CONVERSION TO
DEKATHERM;
DEPRECIATION; R&D;
COST ALLOCATION

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

BEFORE COMMISSIONERS: CHARLES B. CURTIS, CHAIRMAN;
DON S. SMITH,
GEORGIANA SHELDON,
AND MATTHEW HOLDEN, JR.

TRANSWESTERN PIPELINE	)	DOCKET NO. RP75-74
COMPANY	)	

OPINION NO. 43

OPINION AND ORDER AFFIRMING IN PART AND MODIFYING IN PART INITIAL DECISION

(Issued June 25, 1979)

This proceeding involves a decision on certain limited issues arising out of Transwestern Pipeline Company's (Transwestern) rate increase application originally filed in this docket on March 14, 1975.[1] On July 19, 1977, the FPC approved a settlement agreement resolving all issues in the proceeding with the exception of certain issues which were reserved for hearing and which are the subject of this order. The parties to the proceeding are Transwestern, Pacific Lighting Company and Southern California Gas Company (jointly), Cities Service Gas Company, the People and State of California, and the Commission staff.

[1] This proceeding began before the former Federal Power commission. Pursuant to the Department of Energy Organization Act, it is now before this Commission effective as of October 1, 1977. The term "Commission" refers to the FPC when used with respect to the period prior to October 1, 1977, and to this Commission when used otherwise.

The issues reserved by the settlement for hearing are (1) the proper depreciation rate for the Transwestern system, (2) whether expenses associated with a coal gasification project can be treated as research and development costs, (3) whether Transwestern has the contractual right to convert its tariff from a volume, or Mcf basis, to a heat measurement, or dekatherm,[2] basis, and (4) whether costs should be allocated on an Mcf or dekatherm basis.

Following hearings and the submission of briefs, the presiding judge issued his initial decision on the reserved issues on December 22, 1977. Briefs on and opposing exceptions to the initial decision have been filed and the case is before the Commission for final decision. Upon review, the commission finds that the presiding judge's rulings on issues (1) and (2) above are reasonable and supported by the record, and should therefore be affirmed. However for the reasons set forth below, the Commission finds that the judge's rulings on the dekatherm conversion and cost allocation issues are in error and must be reversed.

DEPRECIATION

Transwestern, with the support of one of its principal customers, Cities Service Gas Company (Cities Service), and without opposition from its other principal customer Pacific Lighting Service Company (Pacific Lighting), proposed a depreciation rate of 7% as against its prior rate of 4.9%. Staff originally would have left the rate at 4.9%, but in its initial brief supported a rate of 5.2%. California proposed a rate of 3.5%. In his decision the presiding judge found that the record does not support any change in the depreciation rate. Upon review of the

[2] The term dekatherm (dth) is defined in Subsection 1.11 of the general terms and conditions of Transwestern's tariff. It is a thermal unit of energy which is equal to 1,000,000 British Thermal Units (Btu). It is the equivalent of 1,000 cubic feet of gas having a heating content of 1,000 Btu's per cubic foot.

record we conclude that the presiding judge is correct in his analysis of the evidence and we affirm his decision.[3]

RESEARCH AND DEVELOPMENT EXPENSES

Transwestern sought in this proceeding to have expenditures with respect to the Wesco coal gasification project treated as research and development expenditures, thereby qualifying for immediate inclusion in rate base and accelerated amortization over a five year period. The judge concluded that the Wesco project did not qualify for R&D treatment so as to be included in rate base. This holding is consistent with our recent Opinion No. 14.[4] The Wesco project involves use of the Lurgi process for coal gasification. This process and our reasons for denying it R&D treatment are discussed at length at pages 22-29 of Opinion No. 14. The Judges denial of R&D treatment for Transwestern's Wesco project expenditures is affirmed.

CONVERSION TO DEKATHERM

Transwestern proposed as part of its filing in this docket to amend its tariff for the purpose of measuring, pricing and otherwise accounting for its natural gas sales and services on a dekatherm as opposed to a volume basis. Cities Service objects to the conversion. All other parties, including the Commission staff, support the conversion.

The presiding judge ruled that the Commission is without authority to approve the conversion of Transwestern's tariff to a dekatherm basis. The judge concluded that while the conversion

---

[3] In adopting the judge's finding that the preexisting depreciation rate should be retained, we note that this decision covers a locked-in period from October 1, 1975 to May 13, 1977. We conclude that the judge is correct in retaining the existing rate for the locked-in period. Future filings by this company may require a different result, depending on such variables as the success of coal gasification projects, and the discovery, or lack thereof, of new supplies.

[4] *Northern Natural Gas Company*, Docket No. RP72-127, issued May 10, 1978; Opinion 14-A issued September 14, 1978.

is supported by arguments of equity and practicality, particularly in view of the fact that Transwestern is in curtailment,[5] the Commission is precluded by the *Mobile-Sierra* doctrine[6] from approving the conversion. The Commission does not agree.

Two contracts govern the service rendered by Transwestern to Cities. The first contract, entered into on October 1, 1963, provides in pertinent part as follows:

> For all gas sold after the end of the sixth Contract year, the price shall be in accordance with rate schedules and applicable tariffs filed by Seller with the Federal Power Commission. Seller shall have the right, from time to time to file such rate schedules and tariffs to be effective after the expiration of said sixth Contract Year and base the same on a rate of return satisfactory to Seller. Buyer shall have the right to protest rate or tariff so filed with the Federal Power Commission.

This contract by its express terms contemplates filings which would change both rates and terms, with the right of protest given to the buyer. The second contract, executed on March 10, 1967, contains similar language:

> Subject to the provisions . . . hereof Seller shall have the right, from time to time, to file changes in its Tariff and to increase or decrease the rate by the filing of new Rate Schedules or to change the form of the applicable Rate Schedule and to take such other and further action with respect thereto as may be legally permitted or required, and buyer shall have the right to oppose any of the foregoing

---

[5] In his initial decision (p. 20) the judge stated that "the proposal [dekatherm conversion] is supported by arguments of fairness, equity and practicality, particularly in view of the fact that Transwestern is in curtailment. Apart from its use for non-fuel purposes, the value of gas lies in its Btu content. To require curtailment to be effected on the basis of Btu, which, in most cases, is what really counts, rather than Mcf, certainly appeals to one's sense of reasonableness."

[6] *United Gas Pipe Line Co.* v. *Mobile Gas Service Corp.*, 350 U.S. 332, 345 (1956); *F.P.C.* v. *Sierra Pacific Power Co.*, 350 U.S. 348, 355 (1956).

and to request reduction in rates to the extent that may be legally required or permitted.

We conclude that the *Mobile-Sierra* doctrine is inapposite inasmuch as the parties have by contract specifically provided for changes in the rates and terms of the tariff.

The remaining question is whether the proposed change to a dekatherm basis is just and reasonable and in the public interest. Cities alone of the parties to this proceeding opposes conversion to dekatherm. Cities asserts a contract right to the higher volumes of gas resulting from volumetric allocation and argues that approval of conversion to dekatherm amounts to a certificate modification which would require action under Section 7(b) of the Natural Gas Act because such a modification would in effect be an abandonment of service. We disagree. The Commission finds that the preexisting situation under which the curtailment of Transwestern's customers is determined on a volumetric basis results in an undue discrimination against Pacific Lighting and an undue preference in favor of Cities in contravention of sections 4 and 5 of the Natural Gas Act and is therefore unlawful, and that conversion to a dekatherm basis is required in order to eliminate the undue discrimination and preference.

It will be helpful at this point to consider the circumstances which have brought about the need for conversion. Transwestern's system is supplied with gas from two major lateral lines, the Panhandle lateral located in the Panhandle area of Texas, and the west Texas lateral, located in the Permian Basin area of west Texas. The Panhandle and west Texas laterals converge at a point near Roswell, New Mexico, and Transwestern's system continues westward to the California border. At a point on the border near Needles, California, Transwestern delivers its entire throughput to the pipeline system of Pacific Lighting.

Gas supplied to the Panhandle lateral has a substantially higher Btu content than gas supplied to the west Texas lateral. At the time of the commencement of service by Transwestern to

Pacific Lighting in 1960, much of the gas ultimately delivered to Pacific Lighting came from the higher Btu Panhandle lateral. Transwestern commenced serving Cities Service in 1965 at the authorized level of 100 MMcf per day. This volume was increased to 175 MMcf per day in 1971, to 200 MMcf per day in 1972 and to the present authorized level of 250 MMcf per day in 1973. As service to Cities Service increased, a greater proportion of gas delivered to Pacific Lighting was obtained from the lower Btu west Texas lateral. At the present time Pacific Lighting's gas is about 65 Btu per cubic foot lower than Cities'.

The decline of volumes available to Pacific Lighting from the Panhandle lateral together with the resulting decline of the heating value of the gas received by Pacific Lighting from 1,051 Btu per Mcf in 1966 to 1,013 Btu per Mcf in the present filing, has resulted in an inequity to Pacific Lighting. Increasing curtailment of contract quantities available for delivery on Transwestern's system has also had a direct and cumulative effect on the disparity in heat value of gas delivered to Pacific Lighting and Cities. The decline in deliveries due to curtailment when accompanied by the decline in Btu content of the gas delivered, has compounded the unfairness of continuing to allocate deliveries on an Mcf basis.

It is obvious but nonetheless important to keep in mind that the parties involved here have, in fact, bargained for the sale and purchase, respectively, not of volumes of gas but rather of heat value. The true value of given volume of gas is determined solely by the amount of Btu's it contains. Volumes may reasonably be used as a measure of heat value where the gas transported and delivered by the pipeline has a uniform Btu content. However, due to the special characteristics of Transwestern's system, the system gas is not uniform in Btu content. As a result, allocation of supplies on a volume basis results in discrimination against and preference to individual customers, depending on their geographic location, in terms of heat value received, as has been

demonstrated in this proceeding. The net result is an undue difference in rates between Cities and Pacific Lighting per Btu received. In such a case it is necessary to abandon volumetric allocation and go directly to a heat value basis.

Cities Service opposes the conversion on the ground that if Transwestern's available gas supply is allocated on a dekatherm basis it will receive fewer volumes than it would receive under an Mcf or volume allocation. Cities argues that conversion represents a unilateral amendment of its certificates and contracts and that the reduction in volumes resulting from dekatherm conversion amounts to a permanent and significant reduction in service and as such represents an abandonment of service requiring Commission approval under section 7(b).

Cities relies on the fact that the certificates issued by the FPC to Transwestern for service to Cities, as well as the underlying contracts, specified the service to be rendered in terms of volume. Cities argues that the contracts and certificates require the service to be measured in volumes.

The Commission cannot agree. The contracts between Transwestern and Cities do indeed specify that certain volumes shall be delivered, but they also state that the volumes shall have a heat content of not less than 1000 Btu per cubic foot. The initial service by Transwestern to Cities was approved by the FPC in Opinion No. 472, 34 FPC 659 (1965). In that opinion, the FPC, in comparing the services offered by competing applicants, stated as follows (34 FPC 665):

> The third [aspect] concerns the Btu question. Transwestern and Ark La propose delivery of gas having a Btu content of 1103 and 992, respectively. However, their contracts require a Btu content of 1012 and 975, respectively. The Examiner compared the applications using both sets of Btu figures and did not specify that Btu content relied upon. *In our opinion, it is proper to use for comparative purposes the minimum Btu content included in the contracts. It is*

only gas of that quality which the suppliers are obliged to deliver and to which Cities has a right to receive. (emphasis added).

It is clear under the terms of the certificates so issued that Cities has a right not to 250 MMcf per day of gas having the historical, higher Btu content, but rather 250 MMcf per day of gas having a Btu content of at least but not more than 1000 Btu per cubic foot.[7] The validity of this proposition is borne out by the fact, which no party disputes, that Transwestern could lawfully, by means of processing, reduce the Btu content of gas delivered to Cities to the minimum Btu level. Cities does not suggest that this would amount to a certificate amendment or that Transwestern would require abandonment authority to do so.

The question thus becomes not whether the proposed dekatherm conversion results in a reduction of service compared to historical levels, but rather whether it results in a reduction of service below that specified by the contracts and certificates. The evidence demonstrates that dekatherm conversion does not result in a reduction in service below the contract and certificate level. Specifically, the evidence shows that for the 12 months ended September 30, 1976, the total heat value received by Cities Service (67,880,000 dekatherms) is actually greater than the total heat value derived by multiplying Cities' volume entitlement under the preexisting volume allocation procedure times 1000 Btu per cubic foot (65,995,000 dekatherms). (Cities' Initial Brief, p. 4, f.9). Therefore the effect of dekatherm allocation of supply is actually less than if Transwestern continued to allocate

[7] The record does not disclose the source of the discrepancy between the 1012 Btu figure cited by the FPC in Opinion 472 and the 1000 Btu figure specified in the Transwestern-Cities Service contracts. For purposes of this order the Commission shall rely upon the 1000 Btu standard specified in the contracts.

supplies on a volume basis and processed the gas down to 1000 Btu.

These facts serve adequately to answer Cities' objections. Historical deliveries to Cities in excess of the level required cannot, in the Commission's judgment, be said to have created a certificate right such that a modification of service which is just and reasonable, as well as consistent with the applicable certificates and contracts, would be construed as an abandonment of service and thereby be made subject to the requirements of section 7(b). The Commission is not aware of any precedent holding that an equalization of service based on the heat value of gas delivered by a pipeline to its customers, especially where that equalization does not conflict with certificate or contract terms, amounts to an abandonment of service.

The FPC was faced with a similar issue in a case involving Atlantic Seaboard Corporation, *et al.*, Opinion No. 225, 11 FPC 43 (1952). This case is best known as the source of the so-called *Atlantic Seaboard* method of demand cost allocation, but the question of rate adjustments for sales of differing Btu content was also involved. In that case the construction of certain facilities and a change in operations resulted in a substantial variation in the heating value of gas delivered to individual customers. In its opinion, the FPC stated that (11 FPC 59):

> Arguments advanced by these parties in opposition to the inclusion of a heat content adjustment in applicants' rate schedules are many and varied. However, none of them, in our opinion, comes to grips with the real problem of undue discrimination and undue preference between customers, which is the basic finding upon which the examiner has concluded that applicants showed he required to include such a heat content adjustment in their schedules.

* * *

> We believe the facts . . . clearly demonstrate that applicants are unduly discriminating between customers in demanding and receiving uniform volumetric rates and charges from their several customers in each rate zone regardless of the substantial variations in the heating value of the gas delivered to the various customers. Accordingly, we approve of the examiner's finding and conclusions that each of the applicants' rate schedules, to be just and reasonable, and not unduly discriminatory or preferential, should include a heat content adjustment provision.

In the Commission's judgment, the conversion of Transwestern's tariff to a dekatherm basis is fully consistent with the rationale expressed by the FPC in *Atlantic Seaboard*. Based on the foregoing considerations, the judge's decision is reversed and Transwestern's proposed tariff conversion is approved. In so ruling, the Commission does not intend to set aside Transwestern's contractual agreements with Cities. Transwestern is still bound to provide the specified contract quantities, albeit converted to dekatherms, to the extent not reduced by curtailment.[8]

COST ALLOCATION

Consistent with its proposal to convert its tariff to a dekatherm basis, Transwestern proposed to allocate costs on the same basis. Cities Service opposes dekatherm cost allocation, arguing that the costs of providing service, particularly transmission costs, are related to volume and distance,[9] not to heat value. Cities relies on an earlier case involving Panhandle Eastern Pipe

---

[8] Cities argued that Transwestern should be required to pay back all volumes lost to Cities as a result of the proposed tariff conversion. Since the conversion to dekatherm is being approved, the question of payback is moot and no action on the matter is required.

[9] The FPC has previously ruled that because of the nature and operation of Transwestern's system, the factor of distance should not be used in allocating transmission costs associated with jointly used

Line Company in which the FPC stated that "the cost of transporting gas appears to be more reasonably associated with its volume than its specific gravity or heat content and therefore the allocation of transportation costs on a volumetric basis is correct." Opinion No. 344, 25 FPC 787, 798 (1961). The presiding judge, having ruled against tariff conversion for purposes of billing and curtailment, also rejected Transwestern's proposed dekatherm cost allocation.

Transwestern, Pacific Lighting and California Gas Company, and the California PUC all except to the judge's decision on the cost allocation issue. The staff, while it supported Transwestern's proposed dekatherm conversion before the judge, did not file a brief on exceptions, and in its brief opposing exceptions stated that it would not comment on the dekatherm conversion issues.

Upon review of this matter the Commission finds that Transwestern's costs should be allocated on a dekatherm rather than a volume basis. The Commission's reasons for this decision are largely the same as those stated above in approving the tariff conversion to dekatherms for purposes of billing and curtailment. Since Transwestern's rates are based on allocated costs, it is reasonable and proper that costs be allocated on a heat value basis in order to eliminate the rate differences and undue discrimination and preference which result from volumetric allocation and billing in instances where the pipeline's sales are of varying heat content. Simply stated, the use of volumes to allocate costs overallocates costs to Pacific Lighting and underallocates costs to Cities Service in relation to the service each receives. This is so because in order to receive a given quantity of heat value, Pacific Lighting requires proportionately more volume than Cities Service.

(east of Roswell) facilities. Orders issued July 25, 1977, and September 23, 1977, in Docket No. RP74-52.

As previously noted it is essential to keep in mind that the real commodity being transported and sold by Transwestern is not volumes of gas, but rather energy, or heating value. Transportation costs may fairly be allocated based on the commodity being transported. In our judgment the question to be decided is not whether transmission costs per unit of volume transported vary with the heat content of the gas (they do not), but rather whether volume is a valid basis for allocating transmission costs where there is a substantial difference in the heating value of the gas delivered to individual customers or classes of customers. The Commission has determined that the heating values of gas delivered to Pacific Lighting and Cities Service are of sufficient disparity to require that Transwestern's rates be stated on a thermal basis. It follows that the allocation of costs which underlie and largely determine those rates should be made on the same basis. Based upon the record in this case and for the reasons stated herein, the Commission declines to apply the transmission cost allocation methods adopted in Opinion No. 344.

Allocating transmission costs on a Btu basis has the effect of producing rates equivalent to those which would result if the gas supplies available to Transwestern were in fact uniform in Btu content. The Commission recognizes that the use of heat value to allocate transmission costs constitutes a departure from strict principles of cost responsibility. However, we believe that Btu allocation is reasonable in this instance first because it is consistent with the tariff conversion to dekatherm and also because the higher rates to Pacific Lighting under volume allocation result solely from the fact that Transwestern's two major sources of supply are of unequal Btu content. This is a purely fortuitous circumstance and one which is the fault of no party. Btu allocation of transmission costs serves to mitigate the effect of this accidental circumstance.

The Commission's decision on this issue results in a sharing between Cities Service and Pacific Lighting of the purely fortuitous benefits of high Btu gas supplies on the Panhandle lateral and the equally fortuitous negative effect of low Btu gas supplies on the west Texas lateral. The impact of the decision is to allocate approximately $528,000 of additional costs to Cities Service. (Cities Initial Brief, p. 16). This represents approximately 1.4 percent of Cities' revenue responsibility under Transwestern's proposed rates in this docket.

Transwestern's purchased gas costs should also be allocated on a Btu basis in order to avoid discrimination against Pacific Lighting. If Transwestern's purchased gas costs were allocated by volume, and if its purchases on the Panhandle lateral were made at a higher price per Mcf than purchases on the west Texas lateral, Pacific Lighting would be faced with absorbing a *pro rata* share of the volume price premium but would receive a proportionately smaller, if any, benefit from the higher Btu content of the Panhandle lateral purchases. Even in the absence of a price differential per Mcf, volumetric allocation of Transwestern's purchased gas costs is improper because while it allocates costs by volume systemwide, the actual volumes delivered remain to a large extent physically discrete. The result, again, is a misallocation of costs in relation to service. Pacific Lighting would be required to pay Transwestern's per Mcf system average cost of purchased gas but would receive mostly lower Btu gas from west Texas; Cities Service would pay the same system average cost per Mcf but would receive higher Btu gas from the Panhandle area. By contrast, the Btu allocation method treats both costs and supplies on a systemwide basis and assumes a proportionate sharing of Transwestern's customers of its total system supply.

For the reasons set forth above, the judge's decision on this issue is reversed and Transwestern's Btu method of cost allocation is approved and adopted.[10]

Pacific Lighting has suggested an alternate "three leg" method of cost allocation under which separate costs allocation factors are applied to each of the three major segments of Transwestern's system. Upon review the Commission finds Pacific Lighting's method does not offer any significant advantages over that proposed by Transwestern and has not been shown to be reasonable or necessary on the present record. Pacific Lighting's recommendation is therefore not adopted.

The Commission orders:

(A) The presiding judge's initial decision is affirmed in part and modified in part in accordance with the terms of this order.

(B) Within 30 days from the date of this order Transwestern shall file revised tariff sheets and rates in accordance with the terms of the initial decision and of this order.

(C) Within 30 days after acceptance of the revised tariff sheets and rates submitted pursuant to paragraph (B) above, Transwestern shall refund to its jurisdictional customers all amounts collected in excess of the approved rates together with interest at the rate of 9 percent per annum. Within 10 days thereafter Transwestern shall submit a report setting forth the calculation of refunds and interest paid.

[10] The Commission notes that in Opinion Nos. 21 and 21-A issued on August 9, 1978, and February 16, 1979, respectively, the Commission approved dekatherm cost allocation for Transwestern's parent, Texas Eastern Transmission Corporation.

(D) Upon compliance by Transwestern with the terms of this order, this proceeding shall be terminated.

By the Commission.

(SEAL)

Kenneth F. Plumb,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

OPINION NO. 43-A

TRANSWESTERN PIPELINE COMPANY
DOCKET NO. RP75-74

OPINION AND ORDER GRANTING IN PART AND DENYING IN PART APPLICATIONS FOR REHEARING AND MODIFYING PRIOR ORDER

Issued: August 23, 1979

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

BEFORE COMMISSIONERS: GEORGIANA SHELDON,
ACTING CHAIRMAN;
MATTHEW HOLDEN, JR.,
AND GEORGE R. HALL.

TRANSWESTERN PIPELINE COMPANY
DOCKET NO. RP75-74

OPINION NO. 43-A

OPINION AND ORDER GRANTING IN PART AND DENYING IN PART APPLICATIONS FOR REHEARING AND MODIFYING PRIOR ORDER

(Issued August 23, 1979)

On July 24 and 25, 1979, Transwestern Pipeline Company (Transwestern) and Cities Service Gas Company (Cities), respectively, filed applications for rehearing of the Commission's Opinion and Order No. 43 issued in the above-captioned proceeding on June 25, 1979. In Opinion No. 43 the Commission decided certain cost of service, cost allocation and tariff issues which were reserved for hearing pursuant to an earlier settlement agreement.

Transwestern seeks rehearing of the Commission's rulings on the R & D and depreciation issues. Cities seeks rehearing of the Commission's rulings on the tariff conversion to dekatherm and cost allocation issues. Upon review of the applications, the Commission finds that no facts or principles of law have been shown which would warrant any modification of Opinion No. 43 with respect to the reserved issues. The applications for rehearing are therefore denied.

Transwestern also seeks rehearing of the compliance requirements of Opinion No. 43 which required Transwestern to submit revised tariff sheets within 30 days after issuance of the opinion. Transwestern points out that this requirement is inconsistent with the terms of the settlement previously approved herein by the FPC on July 19, 1977. The settlement specifies that Transwestern's compliance filing and refunds need not be made until after the Commission's decision on the reserved issues has become final and no longer subject to judicial review. Transwestern's objection is well taken. The compliance requirements of Opinion No. 43 shall be modified to conform to the terms of the approved settlement.

Transwestern also objects to the Commission's letter order issued on July 13, 1979, approving a rate of return settlement in this docket. The letter order specifies that the interest rate on refunds related to the rate of return issue shall be that presently in effect or as may be modified at a later date. Transwestern points out that the settlement specifies an interest rate of 9 percent. Transwestern's objection is again well taken. In accordance with the approved settlement, all refunds in this docket shall include interest at the rate of 9 percent.

Finally Transwestern requests a stay of the compliance and refund requirements of Opinion No. 43 pending judicial review of the opinion. In light of the action taken in this order, the request for a stay is moot and no action will be taken thereon.

The Commission orders:

(A) Ordering paragraphs (B) and (C) of Opinion No. 43 are vacated.

(B) Transwestern shall file revised tariff sheets and rates in accordance with Opinion No. 43 and the approved settlements in this docket within 10 days from the date on which Opinion No. 43 becomes final and no longer subject to judicial review.

(C) Within 60 days following approval of the revised tariff sheets and rates submitted pursuant to paragraph (B) above, Transwestern shall refund to its jurisdictional customers all amounts collected in excess of the approved rates together with interest at the rate of 9 percent per annum. Within 10 days thereafter Transwestern shall submit a report setting forth the calculation of refunds and interest paid.

By the Commission.

(SEAL)

KENNETH F. PLUMB,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

OPINION NO. 14

NORTHERN NATURAL GAS COMPANY
DOCKET NOS. RP72-127 AND R&D 75-1

ORDER AFFIRMING IN PART AND MODIFYING IN PART INITIAL DECISION

Issued: May 10, 1978

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

NORTHERN NATURAL GAS COMPANY
DOCKET NOS. RP72-127 AND R&D 75-1

OPINION NO. 14

APPEARANCES

H. C. Rosenthal, Jr., F. Vinson Roach, Daniel O'Brien, Jr., Walter E. Gallagher, and *George J. Meiburger* for Northern Natural Gas Company

Joseph G. Stiles and *Dennis Lane* for the Staff of the Federal Power Commission

PIPELINE
RATES;
R&D

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: CHARLES B. CURTIS, CHAIRMAN; DON S. SMITH, GEORGIANA SHELDON, MATTHEW HOLDEN, JR., AND GEORGE R. HALL.

NORTHERN NATURAL GAS COMPANY
DOCKET NOS. RP72-127 AND R&D 75-1

OPINION NO. 14

ORDER AFFIRMING IN PART AND MODIFYING IN PART INITIAL DECISION

(Issued May 10, 1978)

On October 1, 1977, pursuant to the provisions of the Department of Energy Organization Act (DOE Act), Public Law 95-91, 91 Stat. 565 (August 4, 1977) and Executive Order No. 12009, 42 Fed. Reg. 46267 (September 15, 1977), the Federal Power Commission ceased to exist, and its functions and regulatory responsibilities were transferred to the Secretary of Energy and the Federal Energy Regulatory Commission (FERC), which, as an independent commission within the Department of Energy, was activated on October 1, 1977.

The "savings provisions" of Section 705(b) of the DOE Act provide that proceedings pending before the FPC on the date the DOE Act takes effect shall not be affected and that orders shall be issued in such proceedings as if the DOE Act had not been

enacted. All such proceedings shall be continued, and further actions shall be taken by the appropriate component of DOE now responsible for the function under the DOE Act and regulations promulgated thereunder. The functions which are the subject of this proceeding were specifically transferred to the FERC by Section 402(a) (1) or 402(a) (2) of the DOE Act.

The joint regulation adopted on October 1, 1977, by the Secretary and the FERC, entitled "Transfer of Proceedings to the Secretary of Energy and the FERC", 10 CFR ...., provided that this proceeding would be continued before the FERC. The FERC takes action in this proceeding in accordance with the above-mentioned authorities.

On October 27, 1974, Northern Natural Gas Company (Northern) filed, pursuant to 18 CFR §154.38(d)(5), proposed revised tariff sheets to reflect, in accordance with its approved R&D tracking clause,[1] expenditures for alleged research and development in connection with, *inter alia*, its Coal Gasification Study (Study) and its Coal Slagging Gasifier Project (Project). The Federal Power Commission (FPC), by order issued December 26, 1974,[2] questioned whether the costs associated with the Study and the Project fell within the meaning of R&D expenditures contained in Order No. 483,[3] 18 CFR Part 201, Definition 28.B; it therefore suspended these increased costs for one day, subject to refund, and set the matter for hearing.

---

[1] Northern's R&D tracking clause was approved in the FPC's order issued January 4, 1974, accepting the Settlement Agreement in Docket Nos. RP71-107 (Phase II) and RP72-127. Northern's annual R&D tracker filing adjusts for actual experience during the twelve months ending September 30 of that year and collects for estimated R&D expenditures for the following twelve months.

[2] Docket Nos. RP71-107 (Phase II), PGA 75-1, RP72-127, RP74-9, and R&D75-1. The order specified that the hearing on the R&D would be conducted under Docket Nos. RP72-127 and R&D75-1.

[3] 49 FPC 1054 (1973).

On August 22, 1975, Staff filed a motion for summary disposition of Northern's proposed R&D tracking of "Other Preliminary Studies," on the grounds that Northern had failed to present a *prima facie* case with respect to this category. Northern filed an answer on September 5, 1975, calling Staff's motion premature. In an order dated September 18, 1975, the FPC denied Staff's motion without prejudice. The hearing commenced on September 30 and concluded on October 2, 1975. Presiding Administrative Law Judge Sherman P. Kimball issued his Initial Decision on December 28, 1976.

I. *Northern's Expenditures*

A. *Coal Gasification Study* — $800,473

According to Northern, "this project covers research and development costs for studies dealing with engineering and design research, environmental matters, plant site evaluation and coal reserve evaluation to determine the viability and practicality of proceeding with further development of a coal gasification program."[4] The Company's program included a proposal to build a 250,000 Mcf/d Lurgi process gasification plant with methanation producing 985 BTU gas (Tr. 3:262). It was estimated that, at 1975 prices, such a plant would cost about $1 billion (Tr. 1:90) and would produce gas for about $4/Mcf (Tr. 1:146).

The project was undertaken with the long-range objective of easing the natural gas supply shortage by making synthetic gas supplies from coal available to the pipeline system, if it could be shown to be practical (Tr. 1:27-28). Based on the results of the studies which it commissioned, however, Northern concluded that construction of the proposed Lurgi process gasification plant using Powder River Basin coal would be prohibitively expensive. Consequently, the Company has deferred continuation of active work in the gasification studies (Tr. 1:35).

[4] Northern's Initial Brief, pp. 3-4.

Northern states that the costs included represent its share of the R&D aspect of a coal gasification joint venture with Cities Service Gas Company. The expenditures associated with the Study are broken down by the Company into four categories: (1) Lurgi, (2) Foster-Wheeler, (3) Other Preliminary Studies, and (4) Environmental. The amount of study costs which Northern seeks to track as R&D expenditures as of September 30, 1975, is $800,473.

1. *Lurgi* — $157,373

The Joint Venture (Northern and Cities Service) obtained the services of Lurgi to undertake specialized engineering feasibility studies in order to develop a conceptual design for a 250,000 Mcf/d Lurgi process gasification plant using coal in the Powder River Basin, Wyoming. As the Lurgi process is sensitive to the specific characteristics of the coal being used, according to Northern the entire Lurgi plant design and engineering feasibility had to be developed and specified from the test results from the Powder River Basin coal samples (Tr. 3:253). The Company states that, although Lurgi will not guarantee the successful application of its process to Powder River Basin coal (Tr. 3:276), and although the results to date have not been encouraging, nevertheless this preliminary study is an unavoidable step in evaluating the design feasibility of the Lurgi process.[5]

2. *Foster-Wheeler* — $221,157

The Joint Venture entered into a contract[6] with Foster-Wheeler Corporation to provide a conceptual (unproven) plant design and cost estimate for a Lurgi coal gasification plant capable of providing 250,000 Mcf/d of pipeline quality gas from Powder River Basin coal (Tr. 3:253). According to Northern, Foster-Wheeler translated into facilities design requirements the

[5] *Ibid.* pp. 5-6.

[6] Exhibit 2-H.

process and materials handling parameters defined by the Lurgi report.[7]

3. *Other Preliminary Studies* — $117,100

Northern asserts that "Other Preliminary Studies" comprise supportive project costs necessary to arrive at a project feasibility analysis. When the Company originally filed its direct testimony in this proceeding, it had planned to dedicate some $1.2 million to this category, but as of December 23, 1975, only about $117,100 had actually been spent.[8] This is because, as the results of the Lurgi, Foster-Wheeler and Dames & Moore studies became available, Northern concluded that plant construction would be prohibitively expensive. Consequently, the Company deferred continuation of active work on the gasification studies, including the remaining "Other Preliminary Studies" (Tr. 1:38).

The actual expenditures were made in the following four areas:

(a) *Coal Supply Evaluation* — $25,400

These costs covered Powder River Basin coal analyses and testing not included in the Lurgi work; the cost of drilling core samples and obtaining core analysis and logs of the samples; and coal reserve evaluation work performed by a mining engineer consultant (Tr. 1:38).

(b) *Water Supply* — $61,700

Northern participated in a project to study the feasibility of supplying the requisite large quantities of water to the site in Wyoming of the proposed mine-mouth plant (Tr.

[7] Northern's Initial Brief, p. 5.

[8] Northern points out that, under the terms of its R&D tracker provision, if any increase in rates is effectuated as a result of estimated R&D expenditures not actually incurred or projects not qualifying for R&D treatment, the required rate adjustment will be made as a part of the next R&D tracker filing (Tr. 2:227).

1:38). As sufficient amounts of water are not available in the site area, the study was undertaken to consider whether a viable supply could be obtained by impounding, piping, and treating the available surface water.

(c) *Plant Site Alternatives* — $14,700

In view of the water supply problems in Wyoming, the Company conducted a socio-economic study of plant locations alternative to the mine mouth. The study made a preliminary determination of possible sites on the Missouri River, to which the Powder River Basin coal could be transported, and of the impact the plant would have on these areas (Tr. 1:39, 2:165).

(d) *Legal, Public Relations, etc.* — $15,300

Northern spent $13,300 for outside legal costs associated with legal representation in litigation concerning water rights in Montana and with validation of the Company's title to coal leases (Tr. 1:38). The remaining $2,000 was incurred in meeting with representatives of the Northern Cheyenne Indian Tribe relative to coal reserves which lie in the Northern Cheyenne Indian Reservation. The purpose of the meeting was to explain the nature of a coal gasification project and its potential impacts on Tribal lands and on employment opportunities (Tr. 1:39).

4. *Environmental* — $304,843

The Joint Venture engaged the firm of Dames & Moore[9] to make an assessment of the environmental impact of locating a 250 million Scf/sd Lurgi grass roots coal gasification plant in the Powder River Basin (Tr. 3:253). Northern characterizes the work performed by Dames & Moore as conceptual in nature,[10]

[9] The agreement is Exhibit 2-I.

[10] Northern's Initial Brief, p. 11.

because no previous initial base line data (meteorological or biological) were available for assessment. Methods for collection of the needed data had to be established, and the new and original data had to be collected and assessed. In addition, the proposed plant would generate effluent streams at volumetric levels never experienced in the Powder River Basin area. The Company states that there were no previously known means of assessing the environmental impact of the effluent streams (Tr. 3:253, 259).

B. *Coal Slagging Gasifier Project* — $16,530

British Gas Corporation is conducting this research project to develop and test a slagging gasifier to produce synthetic gas from coal. Northern and Cities Service (as joint participants), together with a number of other companies, are sharing in the cost of the Project. If the research and development work produces a successful commercial slagging gasifier, it is expected that, by replacing conventional dry-ash Lurgi gasifiers with slagging gasifiers, the number of gasifiers in a gasification plant might be reduced by one-half to two-thirds while still maintaining a given plant capacity (Tr. 2:173). While the overall economic benefits of a successful commercial slagging gasifier cannot be determined without further research, Northern states the estimates are for a savings of 3% to 8% (Tr. 2:174).

According to Northern, the Project comprises research because further technological development is needed before a slagging technique adapted to the basic Lurgi gasifier can be engineered on a commercial scale. Neither the technical nor the economic feasibility of this process can be established without further research and development (Tr. 2:174-175).

II. *The Initial Decision*

At the outset, Judge Kimball notes that, although the broadened definition of R&D promulgated under Order No. 483 reflects the Commission's desire to encourage research and

development activity by jurisdictional utilities, "the determination of what constitutes a research and development project will be made on a case by case basis."[11] Moreover, even if expenditures meet the definition of R&D, they must also be found to be in the public interest. The Judge cites the FPC's statement that it will approve expenditures relating to coal gasification projects when it "believes such expenditures will yield substantial benefits to the gas consumer within a reasonable period of time."[12] The test is also whether a project is novel, innovative, or unique.[13]

A. *Coal Gasification Study*

The dispute is whether the series of expenditures related to studying the feasibility of building a Lurgi process gasification plant using Powder River Basin coal are properly classifiable as R&D so as to permit tracking under Northern's tariff. In its briefs to the Judge Northern argued that a project must be classified in its totality. If it is concluded that the proposed plant would be an experimental project, then the expenditures associated with it, including those termed "Other Preliminary Studies", should also be regarded as R&D. Staff, on the other hand, believes that the proposed plant would implement proven commercial technology, and that in any event the proper approach is to review each expenditure separately.

Judge Kimball agrees with Staff that none of the expenditures, viewed in isolation, qualify as R&D in the traditional sense. Alternatively, employing Northern's approach, the Judge also rejects the Company's assertion that the entire Lurgi plant with methanation is "experimental", under the definition thereof

[11] Initial Decision, mimeo p. 3, quoting from order issued August 8, 1976, affirming Initial Decision in *Columbia Gas Transmission Corporation*, Docket No. RP75-99.

[12] Initial Decision, mimeo p. 3, quoting from *Michigan Wisconsin Pipe Line Company*, 51 FPC 2408, 2411 (1974).

[13] See *Northern Natural Gas Company*, 51 FPC 49, 54 (1974).

in Order No. 483. Consequently, no costs incidental to constructing such a plant can qualify as R&D.

Judge Kimball bases his conclusion on three findings. First, there is unrebutted evidence that both the D.C. Circuit Court of Appeals and the FPC have recognized the commercial significance of the Lurgi process.[14] Second, although Northern has acknowledged that coal gasification is a technically feasible means of supplying gas, the Company maintains that there still exist uncertainties and complications in the implementation sufficient to warrant R&D treatment. According to Northern, these uncertainties relate to the application of advanced construction techniques, continuous operation of the system, size of the plant, and the "complication of the additional methanation step" (Tr. 1:34). The Judge finds, however, that Northern has not furnished sufficient evidence to prove these assertions. The success of the Conoco methanation project, in which Northern participated (Tr. 2:178, 3:268), and of the plant at Sasolburg, South Africa (Tr. 3:260-262, 274) prevents a finding that Northern's gasification study is novel or innovative. Nor has the Company adequately corroborated its contention that some of the existing plants are having "substantial problems".

Third, Judge Kimball finds that, even assuming that Northern's proposed gasification plant would be experimental, the delivery of any significant benefits to the public is too remote.

---

[14] *Alice Henry* v. *FPC*, 513 F.2d 395 (D.C. Cir. 1975); *Transwestern Coal Gasification Company*, Opinion No. 728 (April 21, 1975), which states at mimeo p. 4: "The Lurgi process is currently the only coal gasification process with proven commercial experience." Judge Kimball states that Staff cites applications for certification by pipeline companies by which the output of such plants would be introduced into existing pipelines. According to Staff's Initial Brief (p. 25), these include applications by El Paso Natural Gas Company in Docket No. CP73-131; Transwestern Pipeline Company in Docket No. CP73-211; and Michigan Wisconsin Pipe Line Company in Docket No. CP75-275 (Tr. 3: 286, 295, 300-301). One such plant was certificated in Opinion No. 728, *supra* (Tr. 3:299, 302-303)

This finding is based on testimony of the Company's witness Mr. Brady, who stated that Northern intends to defer further work on Lurgi-type (first generation) coal gasification technology and to concentrate instead on second generation technology (Tr. 1:35).

B. *Coal Slagging Gasifier Project*

Judge Kimball finds that, by the weight of its unrefuted evidence, Northern has established its case for R&D treatment of the expenditures for the Coal Slagging Gasifier Project. Northern's witness Mr. Cushing testified that the process efficiency of a slagging reactor may be somewhat higher than that of a standard Lurgi gasifier and that successful development of a slagging gasifier might (1) reduce steam consumption by as much as 50% to 75%; (2) increase capacity of a gasifier by as much as 50% to 65%, thereby reducing the number of gasifiers needed; and (3) reduce waste water from the gasifier by as much as 75%.

In all, Mr. Cushing estimated that substitution of a slagging gasifier could result in a total savings in plant costs of from 3% to 8%. Of even greater importance, he predicted that a significant reduction in a plant's water consumption would have an effect on plant siting, since coal supplies are generally in areas of water shortage (Tr. 2:173-174).

The Judge notes that Staff witness Mr. Rowberg testified that the "slagging gasifier project as described by Mr. Cushing meets the criteria if R&D" (Tr. 3:288). On brief, Staff nevertheless objected to R&D treatment of the Project expenditures. First, Staff argued that, by virtue of Northern's Agreement for the Development of a Slagging Gasifier,[15] the knowledge obtained from the Project will not be made public. Second, Staff questioned the benefit of the Project to Northern's customers, especially in view of ongoing slagging gasifier research sponsored by the

[15] Exhibit 2-A.

Energy Research and Development Administration. Third, Staff contended that R&D treatment should be denied in order to encourage applicants to file comprehensive R&D plans rather than to undertake projects haphazardly.

Judge Kimball concludes that Staff's arguments are of insufficient weight to defeat Northern's case. For one thing, the Judge regards the Staff witness' concurrence that the Project is R&D as strong proof that the Project also meets the public benefit requirements.

The Judge also turns aside Staff's specific objections. First, the Judge states that Order No. 483 permits Northern to petition the Commission to keep confidential the information derived from the Project. Second, the Project provides benefits to Northern's customers not duplicated by the ERDA project (Tr. 2: 192-193), in particular the water conservation aspect. Third, the absence of a filed comprehensive R&D plan is not, by itself, a proper ground for denial of R&D treatment to a project which otherwise qualifies.

Judge Kimball does adopt Staff's proposal that the Project expenditures should be amortized over a period of ten years rather than the customary five years proposed by Northern. Staff argued that the extended amortization period is warranted by Northern's decision to defer further work on the Project until the development of second generation technology (Tr. 1:35).

III. Briefs on Exceptions and Opposing Exceptions

A. *Coal Gasification Study*

In its brief on exceptions Northern reasserts its position that, rather than to examine separately each expenditure associated with the Study, the Commission should determine whether the project as a whole is classifiable as R&D. The Study was undertaken to decide the technological and economic feasibility of going forward with construction of a coal gasification plant.

The Company states that this determination rests on the results of the ancillary studies as well as of specific research activities.

Northern argues that the Initial Decision gives no reasoning to support the conclusion that none of the expenditures qualify as R&D in the traditional sense. The Company also points out that, in order to encourage natural gas companies to engage in more extensive R&D activities, the FPC in Order No. 483 greatly broadened the earlier definition of R&D found in Order No. 322 (35 FPC 820). Northern asserts that, particularly in light of Order No. 483, the record fully supports the Company's position that the Study expenditures are R&D.

The Company avers that the authorities which the Judge cites are not support for his conclusion that a Lurgi process with methanation is commercially available technology. According to Northern, both the *Alice Henry* and the *Transwestern Coal* opinions[16] show that large-scale production of high BTU gas from coal feedstocks has only recently become a viable possibility, and that the methanation process, which has been used on an experimental basis in smaller units, is only alleged to be technically and commercially feasible.

Judge Kimball also concluded that Northern's gasification study was not innovative or novel, in view of the success of the Conoco and Sasolburg methanation projects. Northern says it has never contended that a small-scale Lurgi gasification plant with methanation is not proven commercial technology. The Company notes, however, that the Sasolburg plant produced gas at approximately 300 BTU (Tr. 3:262), and the Conoco project output was about 2,500 Mcf (Tr. 3:267). The Lurgi process is moreover sensitive to the characteristics of the coal being used. It is the opinion of Northern's management that there has been no affirmative demonstration of the commercial feasibility of the type of gasification plant Northern had proposed constructing: a

[16] *Op. cit.*, footnote 14.

large-scale, high BTU plant using Powder River Basin coal. The Company asserts that this was one of the major reasons for deferring the decision to construct a coal gasification plant until the state of the art is more fully developed.

Should the Commission sustain the Initial Decision's finding that the Study expenditures are not R&D, Northern requests that these expenditures be amortized over a period of three years by charges to Account 930.2(4).[17] (miscellaneous General Expenses). Northern argues that the costs were reasonably incurred to determine the feasibility of proceeding with a coal gasification project to ease the supply shortage on the Company's system. Northern's customers supported Northern in this Project and are willing to absorb the costs incurred (Tr. 1:31). The Company asserts that it would be unjust and inequitable to preclude it from recouping these costs in its cost of service.

In its brief opposing exceptions Staff takes issue with Northern's interpretation of Order No. 483. While the Order expanded the definition of R&D, Staff maintains that it also provided the Commission with a means of control and supervision over proposals before increased rates therefor are collected from the consumers. Such supervision entails examining all aspects of a proposal to decide which portions should receive R&D treatment. Staff believes that the Judge in this proceeding has correctly excluded from R&D the expenditures associated

[17] Northern filed the instant docket on October 27, 1974, at which time the applicable Commission Regulations under the Federal Power Act were those revised as of April 1, 1974 (18 CFR). In the 1974 Regulations the designation for Miscellaneous General Expenses was Account 930, and Item (4) thereunder was: "Research and development expenses not charged to other operation and maintenance expense accounts on a functional basis." By Order No. 549, issued June 15, 1976 in Docket No. RM76-3, the designation for Miscellaneous Expenses was changed to Account 930.2, but Item (4) remained unaltered. By Order No. 566, issued June 3, 1977, Item (4) was revised to read: "Research, development, and demonstration expenses. . . ." Order No. 566 is however prospective in effect.

with the various aspects of Northern's Study. Staff repeats its earlier arguments that the excluded costs were related to neither novel nor innovative techniques for providing gas but were instead normal business expenditures incurred for purposes of plant siting.

Staff takes issue with Northern's claim that its Study is R&D because a Lurgi gasification plant (with methanation) on the scale of Northern's proposal has never been proved feasible. Staff points out that the essential gasification process has been proven successful in a number of smaller plants. It is Staff's position that adaptation of the process to a plant on a larger scale does not by itself warrant a designation of R&D. Otherwise, it could be argued that every increase in plant size, as well as every variation of feedstock, for a commercially proven process entails R&D. Staff asserts that there are no good grounds for treating as R&D mere variations on a proven technique; such treatment would simply provide construction funds for the Company.

Staff also opposed Northern's request that, if the study expenditures are not found to be R&D, they should be amortized over a period of three years by charges to Account 930.2(4). Item 4 under Account 930.2 provides that the Account may include "Research and development expenses not charged to any other operation and maintenance expense accounts on a functional basis." According to Staff, this sub-account properly includes only amounts which fall within the Commission's definition of R&D but which cannot be classified to a particular operating function: for example, a company's payment to an industry-wide organization whose program has been approved by the Commission as R&D. Staff protests the use of this sub-account as a hiding place for expenditures which would not otherwise be allowed rate treatment.[18]

[18] If in fact the Company's Study costs were found to be R&D, Staff recommends that they be placed in Account 183 (Other Deferred

B. *Coal Slagging Gasifier Project*

Northern disputes the Initial Decision's finding that, because the Company is deferring further work on the Project pending development of second generation technology, the expenditures associated with this Project should be amortized over a ten-year rather than a five-year period. Northern points out that, when the Commission created Account 188 (Research and Development Expenditures), it provided for an amortization period not to exceed five years, unless authorized by the Commission pursuant to a request by the Commission pursuant to a request by the company.[19] The Company therefore maintains that Northern, not Staff, should be the one to make any requests for an extended amortization period, and Northern has made no such request.

To require the Company to amortize the Project expenditures over five additional years will require carrying costs for a longer period of time and will as a result increase the total costs to be borne by the ratepayers. Northern therefore asks for a five-year amortization period in accordance with Commission Order No. 408.

In its brief on exceptions Staff opposes the approval for R&D treatment of expenditures associated with the slagging gasifier Project. It is not enough to find that a particular project falls within the very broad Commission definition of R&D. Staff argues that there must be the further determination that the

---

Debits) as preliminary natural gas survey and investigation charges (Accounts 183.1 and 183.2). Should Northern actually build a gasification plant, the Company could then charge the expenditures to the appropriate gas plant account. Should Northern abandon the project at some point, the costs could be accounted for in a manner provided by Account 183.

[19] Order No. 408, 44 FPC 639, 641 (1970).

results of the project will benefit the ratepayers within a reasonable period of time.[20] Without this additional showing, no justification exists for increasing the current rates.

In reaching his conclusion regarding the Project, Judge Kimball found that the Staff witness' testimony "constitutes strong proof not only that [the Project] comes within the definition of 28.B., but that it fulfills the public benefit requirements as well" (Initial Decision, mimeo p. 6). According to Staff, however, the Judge should independently have considered whether the Project would yield any benefit to Northern's ratepayers within a reasonable time. A Company witness testified that Northern would not be building a plant with a slagging gasifier before 1985 (Tr. 2:191). Staff submits that the ratepayers should not be required to underwrite currently a project whose benefits are distant, at best.

By the time (if ever) that Northern is prepared to build a coal gasification plant, Staff moreover reasons that technological improvements will likely have made today's slagging gasifier obsolete. In that event the Company's ratepayers would receive no benefit for the money they would have paid for its development.

In any event, Staff believes that development of the slagging gasifier relates directly to construction of a coal gasification plant, since the slagging gasifier has no operational value unless it is made a part of such plan. For this reason Staff proposes that, if the expenditures for the slagging gasifier Project are found to merit R&D treatment, they should be placed not in Account No. 188 but in Account No. 107 (Construction Work in Progress), which includes costs "incident to development of facilities constructed for utility operations."[21] This arrangement

---

[20] *Michigan Wisconsin Pipe Line Company*, 51 FPC 2408, 2410 (1974).

[21] Order No. 408, 44 FPC 639, 641 (1970).

would assure that, if and when Northern builds a coal gasification plant, the ratepayers who are to receive the benefits of the plant will pay for the costs associated with construction of the plant, including the development of a slagging gasifier.

Staff also urges denial of R&D treatment for the Project costs because "it does not fit within an economically rational national energy research program."[22] According to Staff, both Northern and ERDA are seeking to develop a slagging gasifier process; the only difference between the projects is the type of coal being used. Northern should not be afforded R&D treatment for a project whose only unique aspect will benefit none but the operators of the particular plant whose coal feedstock is being analyzed. Staff believes that eligible R&D projects should instead be those which will yield nationwide benefits, and notes that the Commission has indicated it favors a nationwide approach.[23]

In its brief opposing exceptions Northern claims that Staff's interpretation of R&D is improperly strict in view of the FPC's expressed intention in Order No. 483 of broadening the definition of R&D to include those expenditures "reasonably related to the existing or future utility business . . ."[24] On brief Staff propounded the additional criterion that, to qualify for R&D treatment, a project should benefit the ratepayers within a reasonable period of time. *Michigan Wisconsin, supra.* Northern responds that the FPC's holding in *Michigan Wisconsin* in no way supports Staff's position on this point. According to the Company, the FPC denied inclusion in Michigan Wisconsin's cost of service of delay rental payments related to a coal gasification program, because the coal upon which the company has

[22] Staff's Brief on Exceptions, p. 4.

[23] See Notice of Proposed Rulemaking, "Research and Development, Advanced Approval of Rate Treatment," issued June 17, 1976, in Docket No. RM76-17.

[24] 49 FPC 1054, 1059.

options is not intended primarily for use in R&D projects eligible for rate base or tracking treatment. Northern argues that the reasons advanced by the FPC for denial of rate base treatment for delay rental payments for coal are no authority for the denial of R&D treatment for Northern's Project expenses.

The Company points out that the ERDA program for research, development and demonstration deals with three time frames: (1) immediate and short-term (to the early 1980's), (2) middle-term (the early 1980's to 2000), and (3) long-term (beyond 2000).[25] Northern's Project deals with essentially the immediate and short-term time frame of ERDA, yet Staff considers the Project to be too remote for today's ratepayers. Were Staff's interpretation to prevail, Northern believes the allocation of expenditures for necessary technological research and development would be inhibited, and the entire purpose of the expanded definition of R&D would be defeated. Ultimately, reasons Northern, it is the ratepayers who would be penalized.

Northern also challenges Staff's statement that the Company's present customers should not bear the cost of the Project, when its benefits, if at all forthcoming, will be enjoyed by future customers. According to Northern, the Project has saved the ratepayers many dollars by providing a sound basis for the decision to delay the Company's entry into coal gasification. One function of R&D is moreover to resolve uncertainties regarding the technical and commercial feasibility of a process. Northern observes that the wasteful outlay of millions of capital dollars can be avoided by the current application of relatively small expenditures for the discovery that a particular new approach will not improve the process economics.

The Company vigorously denies that the existence of ERDA's coal slagging study makes Northern's Project redundant and therefore ineligible for R&D designation. Although ERDA is

[25] 42 USC 5905 (a).

the lead federal agency for energy research and is responsible for coordinating national activities in this field, Northern asserts that ERDA was created not to eclipse but to complement the R&D efforts of the private sector.

Northern also contradicts Staff's statement that the only difference between ERDA's slagging gasifier and Northern's modified Lurgi process Project is in the type of coal being used. There are basic differences in the processes and in the resultant gas compositions, according to Northern, and Northern's Project would be expected to be substantially lower in cost than the BiGas process. The fact that ERDA is supporting development of both processes is seen by the Company as further evidence that the two projects are not a duplication of effort.

The Company denies Staff's charge that technological advances in coal gasification could render the findings of the slagging gasifier Project obsolete by the time Northern is prepared to build a coal gasification plant. According to the Company, there is unavoidably a long lag time between the decision to conduct the R&D and the development of a commercially feasible project. In any event, the results of the Project will influence the design criteria of and will mean considerable savings in any plant Northern may eventually build.

Lastly, Northern, citing Order No. 483, asserts that it and its customers would not be the only recipients of the R&D information gained from the Project. The Company states, "It is absurd to think that if the R&D proves successful that [sic] Northern would not make available to the industry the knowledge gained by such R&D."[26]

In its brief opposing exceptions Staff supports the Judge's finding that, should the expenditures associated with Northern's slagging gasifier Project be accorded R&D treatment, they should be amortized over ten years. According to Staff, the

[26] Northern's Brief Opposing Exceptions, p. 6.

proper purpose of amortization is to spread a project's total costs over the life of the project. Northern testified that its Project was being developed for use with second generation gasification technology (Tr. 1:35), which would not be in use until the mid-1980's (Tr. 2:191). In these circumstances, a five-year amortization period would require the ratepayers to pay for the entire Project before any operational benefit was forthcoming. Use of a ten-year period would assure that at least some of the costs would be borne by those customers who would receive the actual benefits (if any) of the Project.

IV. *Discussion*

A. *The Definition of "Research and Development" Applicable to This Proceeding*

On June 3, 1977, in Docket No. RM76-17, the FPC issued rulemaking Order No. 566,[27] which established an additional procedure for advance approval of RD&D (research, development and demonstration) programs but does not cancel or alter the pre-existing practice. Order No. 566 also expands the definition of R&D to include full-scale demonstration projects, but does not thereby eliminate the pre-existing definition of R&D.[28] The definition of R&D was expanded by the addition of the following language:[29]

> This definition includes expenditures for the implementation or development of new and/or existing concepts until technically feasible operations are verified.

* * *

[27] Notice of the proposed rulemaking in Docket No. RM76-17 was issued on July 17, 1976.

[28] Order No. 566, mimeo p. 5; see also mimeo p. 3 of the FPC's Order Denying Petition for Rehearing of Order No. 566, issued August 3, 1977, in Docket No. RM76-17. On September 30, 1977, the FPC granted a petition for reconsideration of its August 3, 1977 order.

[29] Order No. 566, mimeo pp. 37-38.

> The term includes preliminary investigations and detailed planning of specific projects for securing for customers non-conventional pipeline gas supplies that rely on technology that has not been verified previously to be feasible.

On rehearing of Order No. 566 the FPC made clear that the expanded definition of R&D shall not be applied "so as to allow retroactive rate base treatment of amounts which would not be accorded such treatment under prior definitions of R&D."[30] The R&D definition which is controlling in this proceeding is therefore Definition 28.B without the additional language, *supra,* introduced in Order No. 566.[31] The controlling definition refers

---

[30] Order Denying Rehearing of Order No. 566, *op. cit.*, mimeo p. 5. This clarification was affirmed by the Commission's Order Denying Motion for Reconsideration, issued January 9, 1978, in Docket No. RM76-17; see in particular pp. 6-8 and footnote 6. Transwestern Pipeline Company has filed a petition in the U.S. Court of Appeals for the Fifth Circuit to review the Commission's orders on rehearing of Order No. 566, issued August 3 and September 30, 1977 and January 9, 1978 (*Transwestern Pipeline Company* v. *F.E.R.C.*, 5th Cir. No. 78-1090).

[31] Previous to the issuance of Order No. 566, 18 CFR Part 201, Definition 28.B states:

> "Research and Development" means expenditures incurred by natural gas companies either directly or through another person or organization (such as research institute, industry association, foundation, university, engineering company, or similar contractor) in pursuing research and development activities including experiment, design, installation, construction, or operation. Such research and development costs should be reasonably related to the existing or future utility business, broadly defined, of the company or to the environment in which it operates or expects to operate. The term includes but is not limited to: all such costs incidental to the design, development or implementation of an experimental facility, a plant process, a product, a formula, an invention, a system or similar items, and the improvement of already existing items of a like nature; amounts expended in connection with the proposed development and/or proposed delivery of substitute or synthetic gas supplies (alternate fuel sources for example, an experimental coal gasification plant or an experimental plant synthetically producing gas from liquid hydrocarbons); and the costs of obtaining its own patent, such as attorney's fees expended in making and perfecting a patent application. The term does not include expenditures for

to *experimental* facilities; it does not encompass demonstration projects to test commercial feasibility.

Prior to the issuance of Order No. 566, the FPC also stated that projects qualifying as R&D should be "innovative and novel."[32] Northern does not take issue with these criteria. The Company does however take exception to the Initial Decision's reliance on *Michigan Wisconsin*[33] for the proposition that "The Commission will approve [R&D] expenditures relating to coal gasification projects when it 'believes such expenditures will yield substantial benefits to the gas consumer within a reasonable period of time' " (Initial Decision, mimeo p. 3). In *Michigan Wisconsin* the pipeline company, as part of a rate settlement, proposed to include in its cost of service delay rental payments related to a coal gasification program. Northern asserts that the FPC denied inclusion of these costs because the coal upon which Michigan Wisconsin had options was not intended primarily for use in R&D projects eligible for special rate base or tracking treatment.

Northern's description is not entirely accurate. It is true that the costs in question were not R&D; there was consequently no need to discuss under what circumstances the costs should or should not be accorded R&D treatment. The FPC pointed out that it could nevertheless have approved the delay rental payments if it had believed the expenditures would have benefitted the consumers within a reasonable period of time. Instead, the

---

efficiency surveys; studies of management, management techniques and organization; consumer surveys, advertising, promotions, or items of a like nature.

[32] See *Northern Natural Gas Company*, 51 FPC 49, 54 (1974), in which the FPC said, "Amounts for storage field development are, in general, not the types of innovative and novel projects contemplated by the Commission's definition of R&D expenditures promulgated in Order No. 483."

[33] *Op. cit.*, footnote 12.

FPC concluded there was inadequate assurance that Michigan Wisconsin would ever actually mine the coal or gasify it.[34]

Clearly, in *Michigan Wisconsin* the requirement of a benefit to the consumers within a reasonable period of time was applied to a non-R&D expense. We agree with Northern that this standard is inapposite to expenditures which otherwise qualify as R&D. To be sure, definition 28.B requires R&D costs to be "reasonably related to the existing or future utility business, broadly defined . . .", and Order No. 483 notes that the Commission can determine on a case by case basis whether proposed expenditures meet this criterion.[35] But this logical limitation on R&D was not intended to impose on a utility a deadline by which the consumers must receive a tangible "payoff." The very nature of R&D rules out certainty as to the results: well-conveived plans may fail.[36] In any event, there is frequently a very long lag time between the initiation of an R&D project and the derivation therefrom of any commercial benefits. It is, in sum, inconsistent with the nature of R&D, and a severe disincentive to necessary experimental undertakings, to require a guarantee of results benefitting consumers within a "reasonable period of time."

---

[34] 51 FPC 2408, 2411. See also *Southern Natural Gas Company*, 52 FPC 658 and 52 FPC 1135 (1974).

[35] 49 FPC 1054, 1055.

[36] We note that in Order No. 566, which does not cancel or alter but rather expands present practice (mimeo p. 5), the FPC assures that a proposed RD&D project is not required to carry a guarantee of success (mimeo p. 6). But whereas an R&D project may fail, a project which fails is not necessarily R&D. See, *e.g.*, *Transcontinental Gas Pipe Line Corporation*, Opinion No. 801, issued May 31, 1977, in Docket Nos. RP74-48 and RP75-3, mimeo pp. 4-5; and *Tennessee Gas Pipeline Company*, 48 FPC 149, 157-158 (1972), affirmed, *Tennessee Gas Pipeline Company* v. *FPC*, 487 F. 2d 1189 (1973).

B. *Coal Gasification Study*

The expenditures which Northern seeks to track as R&D include the series of preliminary studies (described, *supra*, at pp. 3-6) which the Company deemed necessary to provide a basis for management's decision on whether to construct a coal gasification plant (Tr. 1:29, 33-35).

Northern does not dispute that the Lurgi process[37] and the methanation process have been proven technically feasible in small-scale pilot programs.[38] The Company argues however that there has been no demonstration of the commercial feasibility of such a plant on the scale which Northern contemplated. Northern's witness Brady testified that the Study predicted a variety of technical and economic problems in designing, building and operating a base-load, large scale Lurgi plant with methanation, using the particular coal available to Northern (Tr. 1:34). The primary reason the Company decided not to go ahead with the project, however, was (according to Brady) that the undertaking

---

[37] The Lurgi Pressure Gasification Process was developed by Lurgi Mineralotechnik GmbH of Frankfurt, West Germany. Exhibit No. 2-K, page 1, contains the following description of the Lurgi process in conjunction with the methanation process:

> The Lurgi process for coal gasification employs a scheme where coal in a slowly descending bed reacts with steam and oxygen under controlled conditions of heat and pressure to form a synthesis crude gas consisting of methane, hydrogen, carbon monoxide, all of which are important for the production of substitute natural gas. Also produced in the Lurgi gasification are carbon dioxide, hydrogen sulfide, tar oil, naphtha, pehnols, fatty acids and amonia. After preparing the crude gas, the remainder of the process sequence consists of steps for the removal of gas stream impurities and conversion of the H_2-CO content into methane. A plant with a capacity of 250 MMSCFD substitute natural gas requires as feed to the gasifiers approximately 24,000 short tons per day of coal to react with 5000 tons per day of oxygen and 2,000,000 lbs/hr. of steam.

[38] Northern's Initial Brief, p. 13; Brief on Exceptions, p. 5; Tr. 1:28, 34, 135, 2:173, 205, 267.

would not be economically feasible (Tr. 1:34). Northern moreover anticipated obtaining natural gas from Alaska and the Gulf of Mexico with fewer technical uncertainties (Tr. 1:35, 42-43).

Staff views as R&D those processes or plants which are experimental in the sense that they are being tested for technical feasibility. But even where the technical feasibility of a process has been proven, Northern believes that R&D treatment should attach to an entire plant whose scale and operating levels are untried and whose commercial feasibility has not been demonstrated.[39] What Northern is in fact describing is a commercial-scale demonstration plant.

As has been noted (*supra*, p. 19), the definition of R&D established in Order No. 483 (which governs this proceeding) makes no reference to demonstration projects to test the commercial or economic feasibility of a process or plant. Demonstration projects were first included in the definition of R&D with the issuance of Order No. 566, which is prospective in effect. In

[39] Northern's Brief on Exceptions, pp. 3-5; Tr. 1:34, 36, 2:179-181. Northern states on p. 6 of its Initial Brief (incorporated by reference in its Brief on Exceptions, p.4): ". . . all of the expenditures incurred for the conceptual work performed by Lurgi . . . where for the design and implementation of an experimental facility, i.e., coal gasification plant, and are encompassed within the definition of R&D as defined in Order No. 483." Northern's claims for R&D treatment of the other Study expenditures are similarly tied to the overall plant (Initial Brief, pp. 8, 10, 11, 14). But it is not always clear whether this is in fact the Company's reasoning. In its Brief on Exceptions (pp. 4-6) Northern denies that a large-scale Lurgi plant is commercially available technology but does not directly state whether in Northern's opinion this makes the entire proposed plant R&D. In a number of places the Company seems to be arguing that it is the Study, not the proposed plant, that is R&D and is the "project" which must be viewed as a whole (Brief on Exceptions, p. 3). This is in fact the testimony of Northern's witnesses Brady and Hultquist (Tr. 1:92, 124-125, 3: 245-247). If this is indeed Northern's position, it is unpersuasive. As is discussed elsewhere in this order, *infra*, the various facets of the Study itself do not comprise R&D when viewed individually or together.

its Order Denying Rehearing of Order No. 566 (*op. cit.*, mimeo p. 4) the Commission stated:

> Commercial feasibility refers to a determination that a technology proved in a pilot plant will be operable on a commercial scale as well.

Prior to Order No. 566, at least, the FPC did not afford projects R&D accounting and rate treatment simply because their commercial feasibility was uncertain. For nonjurisdictional[40] supplementary supply projects whose technology is proven but whose commercial feasibility involves a degree of risk, the FPC has instead frequently structured the initial rates so as to place the heaviest financial risk of non-delivery on the Company.[41]

The technology of coal gasification with methanation is no longer R&D pursuant to the definition in Order No. 483, because it is no longer experimental, nor is it novel or innovative. Northern's witness Cushing testified (Tr. 2:173):

> The Lurgi process was developed many years ago, and is a proven method of coal gasification. It was developed by Lurgi Mineraloeltechnik of Frankfurt. Germany and is commercially available. The basic Lurgi process produces

---

[40] Northern's proposed coal gasification plant would have been a nonjurisdictional project. Lack of Commission jurisdiction does not preclude Commission approval in jurisdictional rates of R&D expenditures associated with such project. Opinion No. 663, *El Paso Natural Gas Company, et al.*, 50 FPC 651 (1973), affirmed *sub nom. Alice Henry* v. *F.P.C.*, 513 F.2d 395 (D.C. Cir. 1975).

[41] See, *e.g.*, Opinion Nos. 801 and 801-A, *Transcontinental Gas Pipe Line Corporation*, Docket Nos. RP74-48, *et al.* (May 31, 1977; July 29, 1977); Opinion Nos. 728 and 728-A, *Transwestern Coal Gasification Company, et al.*, Docket No. CP73-211 (April 21, 1975; November 21, 1975); Opinion No. 763, *Natural Gas Pipeline Company of America*, Docket No. CP75-147 (May 24, 1976); Opinion Nos. 637 and 637-A, *Algonquin SNG, Inc., et al.*, 48 FPC 1216; 49 FPC 345 (1972); and Opinion Nos. 622 and 622-A, *Columbia LNG Corporation*, 47 FPC 1624; 48 FPC 723 (1972).

> low Btu gas in the vicinity of 300-350 Btu per Scf, depending on the operating conditions and the specific feedstock used. This gas can be converted through a methanation process to pipeline quality synthetic gas containing 950+ Btu/Scf suitable for commingling with natural gas.

Northern was a participant in the successful Conoco methanation project in Westfield, Scotland in which natural gas produced in a Lurgi plant was upgraded from 350 BTU to approximately 950 BTU.[42]

That the technology for coal gasification and methanation is available has also been recognized by the U.S. Court of Appeals for the D.C. Circuit, which stated in *Alice Henry* v. *FPC*:[43]

> The manufacture of gas from coal and other feedstocks is not a recent innovation [footnote omitted]. However, large-scale production of high-Btu gas from coal feedstocks had only recently become a viable possibility. The basic coal gasification method (the Lurgi Process), which involves the reaction of coal with steam and oxygen to form gas with a heat content of approximately 415 Btu per cubic foot, has been used for years. The low-Btu gas that it produces can now be converted through methanation, in which the carbon monoxide and hydrogen components of the gas are reacted in the presence of a catalyst, into gas that has a heat content of approximately 972 Btu per cubic foot.
>
> This proceeding involves two projects that are to be the first facilities to produce high-Btu gas from coal for interstate transportation.

In *Alice Henry* the court reviewed certain environmental issues in FPC Opinion No. 663 (50 FPC 651),[44] which dealt with

---

[42] Tr. 1: 83, 136, 2: 178, 3: 267-268.

[43] 513 F.2d 395, 398 (1975).

[44] In Opinion No. 663 the FPC held that coal gasification plants produce "artificial gas" within the meaning of Section 2(5) of the

two proposed Lurgi coal gasification plants, both to be located in San Juan County, New Mexico. One of the plants was designed to produce over 288,000 Mcf/d of 954 BTU gas. See *El Paso Natural Gas Company*, Docket No. CP73-131, Initial Decision issued June 21, 1974.[45] The second plant, called the Wesco project,[46] was designed to produce 250,000 Mcf/d of 970 BTU gas. See Opinion No. 728, *Transwestern Coal Gasification Company, et al.*, Docket No. CP73-211, issued April 21, 1975, wherein the FPC stated (mimeo p. 4):

> The Lurgi process is currently the only coal gasification process with proven commercial experience. The methanation process, developed in conjunction with the Applicants, is alleged to be technically and commercially feasible and has been used in smaller units worldwide on experimental bases.

It is Northern's position that R&D treatment should be accorded to an entire plant whose scale and operating levels are untried and whose commercial feasibility has not been demonstrated (*supra*, p. 23). Yet as the Presiding Judge correctly

---

Natural Gas Act. Therefore, the feedstock, the coal gasification plant, and the facilities for the transportation and sale of the artificial gas unmixed with natural gas are not within the jurisdiction of the Commission.

[45] On April 21, 1975, the FPC granted a motion for deferral of a final decision until such time as El Paso shall advise the Commission and the participants that the matter is ripe for consideration or further proceedings. (El Paso stated that there were matters regarding its coal lease that had to be resolved.) To date El Paso has not so advised the Commission.

[46] The Wesco project is a joint venture by Transwestern Coal Gasification Company, Pacific Coal Gasification Company, and Western Gasification Company. The project's output is to be transported over Transwestern Pipeline Company's system and sold to Pacific Lighting Service Company and Cities Service Gas Company. Transwestern Pipeline Company filed a rate increase in Docket No. RP75-74 in which it sought R&D treatment for costs incurred in connection with the Wesco project. The Initial Decision in this proceeding was issued on December 22, 1977.

points out (Initial Decision, mimeo p. 5), Northern has placed in the record neither elaboration of nor supporting evidence for the testimony of its witnesses that (1) there are new technical problems in designing, building and operating a base-load, large-scale Lurgi plant with methanation (Tr. 1:34, 2:168), and that (2) some of the existing Lurgi plants are "having substantial problems" in gasification and processing, due to the characteristics of the coal being used (Tr. 3:265–266). Nor is there record evidence that the resolution of any such problems would involve technological experimentation.

It is in summary clear that, under the controlling definition of R&D in this proceeding, which is Order No. 483's "experimental coal gasification plant", not Order No. 566's "commercial feasibility demonstration plant", Northern's proposed plant would not have been R&D. Under the Company's approach of categorizing all incidental costs in the same manner as the project in totality, therefore, Northern's preliminary Study would also not be R&D under Order No. 483.

But Northern also makes the point that its Study was a preliminary feasibility analysis designed to provide information for the decision of whether to go ahead with the coal gasification project; it was not the first phase of development in the plant project.[47] Northern is apparently arguing alternatively that the Study should therefore stand alone and be separately judged under the R&D test.[48] Yet even if the Study is viewed independent of the proposed plant, the record does not support a claim that the Study constitutes R&D under Order No. 483.

---

[47] Initial Brief, p. 13; Brief on Exceptions, p. 3; Tr. 1: 33-34, 93, 3: 246-247, 252-253, 277-279. According to Northern's witness Shafer, very little, if any, of the preliminary engineering work done in the Study would be of value in actually designing the proposed plant (Tr. 3: 278-279).

[48] See note 39, page 23, *supra*.

The four categories of expenditure which comprise Northern's Study, whether taken as a whole or individually, do not qualify as R&D under Order No. 483. The studies performed by Lurgi, Foster-Wheeler and Dames & Moore, as well as the coal supply and water supply studies, have generated some incidental additional knowledge of the subjects being analyzed. But the primary objective of these studies was to make the preliminary designs, evaluations and assessments which are normally undertaken before starting a project; the objective was not to develop new untried methods or technologies applicable to the performance of preliminary engineering work (Tr. 3: 297).[49]

Concerning the Dames & Moore study, for example, Northern's witness Brady testified that there was no attempt to create new techniques suitable for testing the environment with a view to constructing and operating a Lurgi plant (Tr. 1: 116-117). Northern's witness Shafer, too, acknowledged that the Dames & Moore study employed no new equipment; the only novel aspect of the study was that it represented the first time that such environmental data had been collected at that site (Tr. 3: 257-260). Similarly, there is no allegation or record evidence that the

[49] Northern's witness Brady testified (Tr. 1:34-35):

> The studies performed to date were never intended to be anything more than preliminary feasibility studies for the purpose of providing Northern's management with the information and expertise required for evaluation of coal gasification. Since these studies were developed on the basis of a specific coal supply for a plant located in a specific area, this work has only limited application to any other coal gasification plant which might be subsequently considered.

As a result, Brady doubted whether any of the information derived from the Lurgi, Foster-Wheeler, or Dames & Moore studies would be salable (Tr. 1: 110). Northern's witness Shafer echoed Brady's doubts as to the salability of the Lurgi results (Tr. 3: 274-275).

series of bench tests which Lurgi performed on Northern's coal samples were novel (Tr. 3: 272-274).[50]

Northern's expenditure for Foster-Wheeler's preliminary plant design and cost estimate represented a normal cost in the construction of any plant. The study included development of designs for such items as ". . . all utilities, and offsites, such as coal handling, coal storage, ash handling, buildings, roads, water storage, waste disposal, oxygen production, steam generation, by-products storage, etc." [51] These designs and estimates are not R&D; nor are legal and public relations expenses or surveys of the status of coal supply, water supply, or alternative plant sites.

Should the Commission find that the Study expenditures are not R&D under Order No. 483, Northern requests that the costs be amortized over a period of three years by charges to Account 930.2(4) (Miscellaneous General Expenses). But this account item is for expenses which are R&D but which are not charged to any other operation and maintenance expense accounts on a functional basis. Since we conclude that Northern's Study is not R&D, we cannot permit these expenditures to qualify for this alternative accounting treatment.

For all the reasons discussed above, we shall affirm the Presiding Administrative Law Judge's finding that Northern's Coal gasification Study does not meet the definition of R&D promulgated in Order No. 483.

C. *Coal Slagging Gasifier Project*

As the Presiding Judge correctly concluded (Initial Decision, mimeo p. 5.), the unrefuted weight of the evidence establishes that, as of the date of Northern's filing in this docket, Northern's payments to the British Gas Council's project for piloting a

[50] The bench tests performed by Lurgi on Northern's coal samples are described in Exhibit No. 2-G, Appendix I; see also Tr. 3: 252.

[51] Exhibit No. 2, question 55 and reply 55b.

modified Lurgi reactor to be operated in a slagging mode[52] is an R&D expense under the definition applicable in this proceeding (Tr. 2:174-175). The expected results of engineering a successful commercial slagging gasifier have been described, *supra*, on pages 6 and 8.

While no party has challenged that the slagging gasifier comes within the applicable definition of R&D, in its brief on exceptions Staff raises a variety of arguments against the inclusion of the Project costs in Northern's R&D tracker. Staff's assertion that an R&D project must benefit the ratepayers within a reasonable period of time is overly restrictive in light of the uncertainty of obtaining usable results which is inherent in R&D work. The inappropriateness of applying a deadline to R&D benefits has been discussed, *supra*, on pages 19-21.

No record evidence supports Staff's generalized assumption that the results of the slagging gasifier Project will be obsolete by the time Northern is prepared to build a coal gasification plant. It is reasonable to assume that the knowledge gained from the Project will influence the design and expense of any such plant

---

[52] Exhibit No. 2-A, Appendix I, contains the following description of the British Gas Slagging Gasifier, developed by British Gas Corporation at the Westfield Works in Fife, Scotland:

> The British Gas Slagging Gasifier is a slagging, pressure gasifier which converts coal, steam, and oxygen to a synthesis gas consisting in the main of hydrogen, carbon monoxide, carbon dioxide, and methane.
>
> Coal is fed into the top of the gasifier through a lock-hopper system, and steam and oxygen are injected into the bottom of the gasifier through tuyeres. Molten ash, termed slag, is removed from the bottom of the gasifier through a water quench and lock-hopper system. The gasifier is maintained at a pressure of 300 psig or higher; bottom temperature is about 2700°F and top temperature about 1100°F.
>
> The steam, oxygen, and coal react to produce the synthesis gas which passes from the top of the gasifier into a water quench and gas cooling system. The synthesis gas can be burned for fuel or processed further to yield a variety of chemicals and hydrocarbons. It is suitable for conversion into methane.

the Company may build. Or, Northern may conclude that, for economic or technical reasons, the Project results could not be used to improve the coal gasification process (Tr. 2:189-190). Yet this conclusion would not alter the R&D nature of the Project. The designation of R&D should be neither bestowed nor removed on the basis of hindsight. There is in any event no evidence that when Northern joined in the slagging gasifier Project it had already decided against building a coal gasification plant in the near future. Nor does the record support Staff's assertion that, because it is a virtual duplication of the Bi Gas slagging gasifier program co-sponsored by ERDA, the British Gas Counsel's Project does not fit within a national energy research program.[53]

The Initial Decision provided that the approved R&D expenditures should be amortized over a period of ten years instead of the normal five years. In its brief opposing exceptions the Staff supports the Judge's holding on this point, apparently abandoning its position in its brief on exceptions that the R&D costs should be placed in Account 107 (Construction Work in Progress). The Staff reasons that the results of the Project will not be implemented for at least ten years, if ever. The amortization period should therefore be ten years.

Pursuant to Account 188, which was established by Order No. 408 (44 FPC 639), large, non-recurring R&D expenditures may be amortized over a period not to exceed five years unless authorized by the Commission "upon consideration of a request of any specific company."[54] Northern has not requested that the amortization period be extended beyond five years. There is moreover no point in stretching the amortization period on the

[53] Northern's witness Cushing testified as to the differences between the ERDA Bi Gas plant and the British Gas Council's plant in Scotland (Tr. 2:192-193).

[54] 44 FPC 639, 641 (1970).

chance that it might overlap with construction of a coal gasification plant which Northern may or may not build. We see no compelling reason for an amortization period in excess of five years.

For all the reasons stated above, we shall affirm the Presiding Administrative Law Judge's finding that Northern's expenditures for the Coal Slagging Gasifier Project qualify for R&D accounting and rate treatment. We shall however modify the Judge's designation of a ten year amortization period and hereby direct Northern to amortize the R&D expenditures over five years.

IV. *Refunds*

According to the terms of Northern's annual R&D tracking provision,[55] by October 27 of each year Northern files with the Commission an R&D tracker adjustment to be effective the following December 27. Northern argues that, should the Commission disallow some part of the Company's R&D tracker filing, the appropriate adjustment to Northern's rates should be made through the annual tracker filing (Tr. 2:227). For the Commission to order immediate refunds would defeat the purpose of the annual filing provision which has been approved by the Commission and which the Company claims was instituted at the request of its customers (Tr. 2:228). According to the Company, its utility customers are opposed to frequent changes in their rates because of the resultant regulatory problems at the state and local levels (Tr. 2:228). We shall accordingly require Northern to reflect the rate decrease ordered herein beginning with its next annual R&D tracker filing.

We shall also require refunds for the period the disallowed costs were in Northern's rates, with interest at 9.0%.

[55] Item A By Reference.

Docket Nos. RP72-127, *et al.*

The Commission finds:

(1) Applicant, Northern Natural Gas Company, is a "natural gas company" within the meaning of the Natural Gas Act.

(2) The Initial Decision, issued December 28, 1976, in this proceeding, should be affirmed, except as modified regarding the amortization period.

(3) Applicant should be required to refund to its jurisdictional customers any amounts reflecting the difference between its proposed R&D tracker increase and the R&D tracker increase required to be filed by this opinion and order.

The Commission orders:

(A) The Initial Decision, issued December 28, 1976 in this proceeding, is hereby affirmed except as modified regarding the amortization period.

(B) The R&D tracker increase filed by Applicant is disallowed to the extent that it does not conform to this opinion and order.

(C) The next annual R&D tracker filing made by Applicant under the provisions of Section VI of the Stipulation and Agreement in Docket Nos. RP71-107 (Phase II) and RP72-127, approved by the Federal Power Commission on January 4, 1974, shall reflect the reductions in the amount and manner herein ordered, together with interest at the rate of nine (9) percent per annum from the date of payment of Applicant, to the date of refund.

(D) Within thirty (30) days after making each refund required by Paragraphs (B) and (C) above, Applicant shall file with the Commission in writing and under oath a report as to the amount of any refunds made and its method of computing the same.

By the Commission.

(SEAL)

Kenneth F. Plumb,
Secretary

IN THE
UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

No. 78-1090

TRANSWESTERN PIPELINE CO.,

Petitioner,

VERSUS

FEDERAL ENERGY REGULATORY COMMISSION,

Respondent.

No. 79-3053

TRANSWESTERN PIPELINE CO.,

Petitioner,

VERSUS

FEDERAL ENERGY REGULATORY COMMISSION,

Respondent.

PETITIONS FOR REVIEW OF ORDERS OF THE FEDERAL ENERGY REGULATORY COMMISSION.

ON PETITION FOR REHEARING
(November 5, 1980)

Before CHARLES CLARK, RONEY and GARZA, Circuit Judges.

PER CURIAM:

IT IS ORDERED that the petition for rehearing filed in the above entitled and numbered cause be and the same is hereby denied.

ENTERED FOR THE COURT:

.....
United States Circuit Judge